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HYDROELECTRIC REGULATION UNDER THE FEDERAL POWER ACT

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

HYDROELECTRIC REGULATION UNDER THE FEDERAL POWER ACT

SEPTEMBER 28, 1989

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HYDROELECTRIC REGULATION UNDER THE FEDERAL POWER ACT

THURSDAY, SEPTEMBER 28, 1989

U.S. Senate,
Subcommittee on Water and Power,
Committee on Energy and Natural Resources,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Bill Bradley, presiding.

OPENING STATEMENT OF HON. BILL BRADLEY, U.S. SENATOR FROM NEW JERSEY

Senator **Bradley**. The subcommittee will come to order. Good morning.

In 1986, Congress enacted the Electric Consumers Protection Act. The Act achieved a number of significant purposes. One of these was to strengthen the role of environmental values and the input of environmental agencies in the licensing of hydro-electric projects under the Federal Power Act. By creating a formal process for environmental review, Congress intended for the licensing of hydroelectric projects to take place in the context of modern environmental values.

Nevertheless, Congress did not forsake the first purpose of hydroelectric development, which is power production. The ECPA provides that environmental values must receive equal consideration with developmental values. But the legislative history of the Act makes clear that equal treatment of these values, in a given case, is not required.

One is compelled to ask what this prescription really means. How is it possible, for example, to reach any equation between potential for kilowatts lost and salmon gained? Or vice versa. The answer is simply not very satisfying. Decisions cannot be made objectively in this present context. The fine tension between developmental and environmental values must invariably be resolved as a matter of normative judgment.

After three years of grappling with ECPA, the hydroelectric industry strongly believes that the balance of competing values has dissolved.

The industry asserts that the environmental review process, together with overlapping layers of additional regulation, have unreasonably tilted decisions toward environmental values and made the licensing process almost unworkable. In an age of concern over acid rain and global warming and the oceans and beaches and clean air, the industry asks whether our perspective on the impacts of hydroelectric development has been lost. The development community asks whether, in fact, we have gone too far in our efforts to protect the environment from all harm.

I do not know the answers to these questions, but our hearing today should help to inform the subcommittee on these trade-offs and this dilemma. In addition to testimony from the hydroelectric industry, we will hear from the commissioners of the FERC, representatives of environmental organizations, state and federal resource agencies. No doubt there is a difference of opinion concerning how well the environmental review process is working and other issues in hydroelectric licensing.

I look forward to hearing the views of the respective panels. This is clearly one of those hearings where we are looking for people to express very clear views on a very complicated subject. We are also asking for you to be very clear on the central dilemma and the ambiguity in the law, as well.

[The prepared statement of Senator McClure follows:]

STATEMENT OF

SENATOR JAMES A. McCLURE (R-ID)

RANKING REPUBLICAN MEMBER
COMMITTEE ON ENERGY AND NATURAL RESOURCES

Subcommittee on Water and Power
Oversight Hearing on Electric Regulation
Under the Federal Power Act

September 28, 1989

Good morning. Today the Subcommittee on Water and Power is reviewing the Federal Energy Regulatory Commission's implementation of the Electric Consumers Protection Act, and the future role of hydropower in our Nation's energy supply.

In 1986, at the request of the electric utility industry, Congress revised the Federal Power Act to eliminate public preference on relicensing. As a tradeoff, the Electric Consumers Protection Act enhanced environmental considerations in the licensing process.

This oversight hearing is our first opportunity to review how well the Act is working and whether it is being implemented by FERC as intended by Congress. With respect to FERC's hydroelectric regulatory program, I have four key areas of concern.

First, and foremost, I am deeply distressed with the Commission's assertion that they have exclusive jurisdiction over water rights with respect to hydroelectric projects. Simply put, I do not agree with the Commission's position or its interpretation of law. This issue is critical to Westerners because under the Commission's interpretation, FERC is free to usurp state water rights. FERC's position was recently upheld by the 9th Circuit, but I understand that the decision will be appealed to the Supreme Court. Depending on how that comes out, ultimately Congress may have to revisit that issue.

Second, I am concerned that the process the Commission is establishing to relicense projects may be too cumbersome and too easily abused by those who want to halt development, or want to abuse the process to extract concessions from project owners. In this connection, I want to remind the Commission that one of the key elements of the Electric Consumers Protection Act is that it provides fish and wildlife (and certain other factors) equal consideration, but not equal treatment in the licensing process.

Third, I believe that the Commission's civil penalties rule is inconsistent with the letter and the spirit of the Electric Consumers Protection Act. The application of penalties to projects not yet licensed is not in keeping with the plain language of the Act, and I believe that the Commission will ultimately be reversed. But until then, unlicensed project owners will live in fear of massive penalties imposed by FERC. I understand that in one case, FERC imposed a $1.7 million penalty on one unlicensed project.

Fourth, I know that the industry is concerned that the Commission has underway an effort, both directly and indirectly, to bring into federal jurisdiction hydroelectric projects which are now subject to state jurisdiction. This is related to my concerns about water rights, because under the Commission's interpretation of law, making these projects federally jurisdictional gives the FERC more ability to preempt state water rights. In part, this is what has motivated me to pursue my unlicensed hydro legislation, S. 635.

I do not mean to be entirely critical of FERC's hydroelectric efforts. For example, the Commission has done a particularly good job in addressing and resolving problems in Idaho. I have also been very pleased by the Commission's outreach efforts to explain and discuss the new licensing process. Commission staff should be commended for those efforts.

Moreover, the current problems are also not entirely of the Commission's making. Other Federal agencies have used, and sometimes abused, the licensing process to make sure that their issues are fully responded to -- whether or not the outcome is in the overall public interest. I might note, in this regard, that while the Commission must consider all relevant input into the hydro licensing and relicensing process, it must keep in mind that FERC is the decision-maker with respect to disputes among federal agencies; FERC must not abdicate that responsibility regardless of how convenient it would be to do so.

In closing, let me say that hydroelectric power is one of the most environmentally benign energy resources and, if allowed, it can play a major role in meeting our future energy needs. I look forward to the testimony today.

Senator **BRADLEY**. Senator Burns, do you have any opening statements?

Senator **BURNS**. I have none—thank you, Mr. Chairman, I have no further comments since I am just beginning this new adventure on this committee. I think it is an exciting committee because of the possibility of adding something to a law, maybe, or part of our regulatory process that would enhance—address, both environmental issues and, of course, the issue of producing power.

We have, at times, we would think, great quantities of water and the great development of hydroelectric power in the west, and then, all at once, those fields are narrowed, so to speak, because of issues on both sides of this situation.

I am looking forward to hearing from all of the groups that have input upon hydropower production and how it impacts this country.

I appreciate the Chairman and his efforts in this in bringing this to our attention. I am looking forward to hearing from not only the FERC and all groups, but also in educating myself, too, on what has to be done to satisfy the needs of all the interests.

Thank you, Mr. Chairman. I am ready to go.

Senator **BRADLEY**. Thank you very much, Senator Burns. Our first panel consists of Martha Hesse, who is the Chairman of FERC; Charles Stalon, who is a Commissioner; Chuck Trabandt who is a Commissioner, former staff member of this committee; Betsy Moler, also a Commissioner of FERC, outstanding former staff member of the committee; and Jerry J. Langdon, Commissioner of FERC. We have quite a cast before us and I am sure that the accumulated wisdom of this group is going to be sufficient to enlighten us and clarify these issues.

Please, if you would, let us hear what your views are. Chairman Hesse?

Senator **BURNS**. May I just break in here, Mr. Chairman? We have got a vote scheduled somewhere around 10, so if we all jump up and run away—it may add a little bit to the confusion. We hope not anyway.

STATEMENT OF HON. MARTHA O. HESSE, CHAIRMAN, FEDERAL ENERGY REGULATORY COMMISSION

Ms. **HESSE**. Thank you, Mr. Chairman and members of the committee.

I have testified before the Senate Energy and Natural Resources Committee——

Senator **BRADLEY**. Chairman Hesse, I understand that you are working under a number of disadvantages that are not committee-imposed, today. Therefore, if you would pull that microphone very close to your lips, I think you actually might be able to whisper and we could hear you.

Ms. **HESSE**. Okay. Mr. Chairman, I have testified before this committee and subcommittees for more than seven years and this is the first time I have been without a voice.

If it is acceptable to you, I would like to submit my statement for the record?

[The prepared statement of Ms. Hesse follows:]

Statement of Martha O. Hesse, Chairman
Federal Energy Regulatory Commission
Before the Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
September 28, 1989

Mr. Chairman and Members of the Subcommittee: Good morning. I appreciate the opportunity to discuss with you today what the Commission has been doing, and hopes to accomplish, with its Hydroelectric program, particularly with respect to implementing the Electric Consumers Protection Act of 1986 (ECPA).

Let me state at the outset what I have said on previous occasions: the hydroelectric program is by far the most difficult area that the Commission oversees. We strive to strike a delicate balance between competing and legitimate interests. And while these lines are not always easy to draw, I believe we have made substantial progress in finding an appropriate balance.

As you know, the Commission's hydroelectric program has three major components: licensing and exemptions, compliance activities and dam safety. The Commission has also taken several management initiatives to make more efficient the processing of hydropower applications, the tracking of compliance requirements, and the maintenance of dam safety. These improvements will be carried forward well into the future.

In addition, we are preparing for the major influx of relicensing applications that is expected in the next few years. For instance, our hydro outreach program has continued. This program fosters better communication with prospective relicense applicants, state and federal resource agencies, and members of the public. During these sessions, Commission staff discusses ECPA's requirements and answers questions related to study requirements that are a vital part of the relicensing process. The outreach program should result in the filing of better relicensing applications in the 1990s, when a significant portion of ECPA's workload will be received.

In addition to ECPA related responsibilities, the large number of licenses and exemptions issued in recent years has dramatically increased the Commission's compliance workload. We have responded by establishing a Division of Project Compliance and Administration to better fulfill the Commission's responsibility to ensure that licensees and exemption holders comply fully with the terms of their authorizations.

In the area of dam safety, again, the large number of recent licenses and exemptions has increased Commission workload. The

Commission is now monitoring safety at more than 2,100 dams. In my view, there is no greater priority in the hydropower program. We will continue to work diligently and cooperatively with federal and state agencies, as well as dam operators, to protect life and property at all times.

Turning to one of the specific areas of the Subcommittee's interest, there is no doubt that ECPA's passage has significantly affected the way the Commission evaluates and renders decisions. In particular, equal consideration of nondevelopmental values, state comprehensive plans, agency consultation, the scheme for relicensing, and compliance and penalty assessments are the primary ECPA factors that influence the decision making process. For example, under the equal consideration requirement, the Commission must give fish and wildlife values equal consideration with power development considerations. ECPA also requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for the affected waterway. Over 350 such plans have already been filed with the Commission.

Furthermore, under ECPA section 10(j), the Commission must either adopt the fish and wildlife protection recommendations of federal and state agencies, or explain why those recommendations conflict with Federal Power Act or other applicable laws. We must also attempt to negotiate resolution of any conflicts with those agencies. To date, the Commission has adopted approximately 95 percent of the agencies' fish and wildlife recommendations.

ECPA also adds several factors that must be evaluated in the relicensing process, such as the usefulness of generated power, the ability of a new license applicant to operate the project, and prior compliance records. Lastly, ECPA expanded the Commission's authority to revoke licenses administratively and to impose civil penalties for violations.

Since the passage of ECPA, the Commission has issued implementing regulations dealing with a variety of ECPA's provisions. These include interpretation of comprehensive plans, information to be made available by existing licensees in relicense proceedings, qualification of new projects for PURPA benefits, relicensing procedures generally, and procedures for assessment of civil penalties.

In addition, I anticipate that the Commission will consider in the near future a notice of proposed rulemaking regarding the pre-filing consultation process, procedures for processing applications, and the agency consultation and negotiation process under ECPA section 10(j). We will also be implementing ECPA on a day-to-day basis in the context of processing license and exemption applications.

In conclusion, from nondevelopmental to developmental, to state versus federal, the common denominator in all hydro decisions is striking an appropriate balance. We attempt to craft decisions that are not only faithful to the many facets of our statutory responsibilities, but that also recognize the country's ever growing need for affordable, clean and reliable power. As we head toward the 90s, the Commission faces many difficult issues in the hydro area, and we look forward to continuing to work with the Congress, the States and other interested agencies, to meet the challenges that lie ahead.

Thank you.

Senator **Bradley**. Your statement will be submitted in the record in full. We will take your physical condition into consideration today, and not impose upon you to read your full statement. But, we would hope that, in the questions and answers, if you do have anything, that you will make an effort to give us maybe a succinct word or two.

Ms. **Hesse**. I will.

Senator **Bradley**. Then, let us move on to Commissioner Stalon. Commissioner Stalon.

STATEMENT OF HON. CHARLES G. STALON, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION

Mr. **Stalon**. In my prepared statement, I note that I have very little to add to the Chairman's general statement on these matters. I probably should read hers.

Senator **Bradley**. This could become contagious, if it is successful.

Senator **Burns**. My learning process has not been advanced too much, here.

Mr. **Stalon**. I do have a brief summary, however. I support the Chairman's efforts to develop management initiatives that increase the efficiency of processing of hydro licenses, permits and exemption applications. And, to give due weight to the environmental concerns as required by ECPA.

I also support her initiatives that are designed to enhance the effectiveness of the Commission's compliance requirements and dam safety programs. Indeed, it is principally because of the importance of these efforts, which will, if successful, enhance the effectiveness of the Commission's environmental and dam safety oversight, that I have opposed legislation that would grant to existing holders of unlicensed projects, an apparent absolute immunity in perpetuity from regulatory oversight in this regard.

I also believe that effective compliance will require effective enforcement in certain instances. I believe the Commission's decisions to assess modest civil penalties in certain areas is a step in the right direction.

Finally, I like the notion of focusing on the effectiveness of the Commission's outreach program. This is especially important under a statutory and regulatory scheme that draws upon the input and recommendations of an increasing array of state and federal resource agencies and of other groups and individuals, some focused on narrow parts of the overall matrix of factors the Commission must consider in reaching a well-balanced decision in this area.

I appreciate the invitation to appear before the subcommittee. And I will be happy to answer any questions to which I may be able to contribute. In particular, I would be very pleased to discuss the problem of comparisons of incommensurables and of ambiguities in the legislation that the Commission must implement.

[The prepared statement of Mr. Stalon follows:]

Statement of Charles G. Stalon, Commissioner
Federal Energy Regulatory Commission
Before the Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
September 28, 1989

I have little to add to the Chairman's general statement on these matters and to Staff's responses to the Committee's specific questions.

I support the Chairman's efforts to develop management initiatives that increase the efficiency of processing of hydropower license, permit and exemption applications and to give due weight to environmental concerns, as required by the Electric Consumers Protection Act of 1986 (ECPA). I also support her initiatives that are designed to enhance the effectiveness of the Commission's compliance requirements and dam safety programs. Indeed, it is principally because of the importance of these efforts, which will, if successful, enhance the effectiveness of the Commission's environmental and dam safety oversight, that I have opposed legislation that would grant to existing holders of unlicensed projects an apparently absolute immunity in perpetuity from regulatory oversight in this regard. I also believe that effective compliance will require effective enforcement in certain instances; and I believe the Commission's decisions to assess modest civil penalties in certain areas is a step in this direction.

Finally, I like the notion of focussing on the effectiveness of the Commission's outreach program. This is especially important under a statutory and regulatory scheme that draws upon the input and recommendations of an increasing array of state and federal resource agencies and of other groups and individuals, some focussed on narrow parts of the overall matrix of factors the Commission must consider in reaching well balanced decisions in this area.

I appreciate the invitation to appear before the Subcommittee; and I will be happy to answer any questions to which I may be able to contribute.

Senator **Bradley**. Thank you very much, Commissioner Stalon. I pronounce your name Sta-lone, if no one else does. I know how powerful the FERC is.

Mr. Trabandt.

STATEMENT OF HON. CHARLES A. TRABANDT, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION

Mr. **Trabandt**. Thank you, Mr. Chairman. I have more extensive prepared remarks, which, with your permission, I would like to have in the record.

Senator **Bradley**. Your full statement will be in the record.

Mr. **Trabandt**. And, I have a summary statement, which I believe you all have available to follow along.

I appreciate the opportunity to testify today at this oversight hearing to examine the role of hydropower in the nation's electric supply mix and how the existing FERC licensing regime affects hydroelectric development.

Also, I would like to congratulate the subcommittee and Senator Bumpers for scheduling these hearings on that important subject.

I would summarize my prepared testimony by making several brief points which I hope will be responsive to your request.

First, a viable hydroelectric option is a critical element in our nation's energy future as we approach the 21st century. Oil imports are rising rapidly again toward the 50 percent dependency level. Electric demand projections are outstripping existing and planned capacity in some regions of the country. The Clean Air Act and acid rain requirements appear certain to become much more stringent for the production of energy.

National and international concern about global warming may lead to further restrictions on the use of fossil fuels. International economic pressures demand the improved competitiveness of U.S. goods and services with domestic energy at lowest reasonable prices.

And, in the face of those important factors, hydroelectric power is a clean, domestic, reliable, renewable, and cost-effective source of electric generation for this nation. I believe that it is becoming increasingly apparent that the United States, ultimately, is going to need every possible megawatt of responsible hydroelectric generation in the decades ahead.

Second, hydroelectric power already represents about 13% of the installed generation capacity in this country, with over 88,000 megawatts. FERC licensed slightly over half of that total.

The total potential capacity, and I think this is a very important response to your questions, the total potential capacity, nationwide, for new conventional and pump-storage hydroelectric would almost double the existing capacity to 183,000 megawatts.

As of January 1 of this year, there will be a total of 862 unconstructed projects in various stages of FERC licensing, with a total of over 13,000 potential megawatts. Another 470 projects, with a total of about 15,000 potential megawatts, are in various stages of the preliminary permit study program.

The 862 unconstructed projects in our licensing process today, could save about 145 million barrels of oil or 35 million tons of coal per year. Those 13,000 potential megawatts in licensing also should be compared against the 74,000 megawatts of new capacity projected by electric utilities to be needed by the year 2000, over 40 percent of which are not now on the drawing boards.

In that regard, Mr. Chairman, I would note an article in this morning's Energy Daily, which your staff may have, about a proposed 2,000 megawatt pump-storage project in New Jersey, that has just begun the FERC licensing project. That 2,000 megawatt project would help supply the 8,500 megawatts of additional supply New Jersey and surrounding states will need by the year 2010.

So, there is a substantial domestic hydroelectric resource, by almost any measure, subject to the FERC licensing program today, and the potential for much more in the future.

Third, almost 235 existing licenses are scheduled to expire over the next 11 years with a total installed capacity of 5,215 megawatts. Those projects were first licensed up to 50 years ago under less stringent environmental requirements. So, FERC's relicensing process will have an important, perhaps critical, impact on the continued operation and any potential expansion of those projects.

Consequently, FERC decisions made today in the licensing program will have great significance for those 235 existing projects, as well as for future projects.

Fourth, the Electric Consumer Protection Act of 1986 requires that the Commission must conduct hydroelectric licensing with equal consideration of other resource values, in addition to power and development values, as you stated in your statement. The Commission must also review, fully and objectively, the plans and recommendations of other federal and state resource agencies within their respective areas of expertise.

But, to ensure the continued viability of hydroelectric development and operation, ECPA does not require the Commission to provide equal treatment to other resources, nor to be bound by the plans or recommendations of other agencies.

Therein, in my judgment, lies the essential balance struck by Congress and ECPA to ensure a viable hydroelectric development option, while at the same time, equally considering other resource values for appropriate action in the licensing process.

Fifth, for various reasons, the Commission, more recently, has tended to stray from that essential balance in case-by-case decisions and new interpretations of the provisions of ECPA and relevant portions of the Federal Power Act. That tendency to stray from the essential balance has manifested itself in decisions which give greater weight and, often outright, mandatory authority and veto power to other federal and state agencies.

The result of this Commission action has been to diffuse the ultimate decision-making authority clearly envisioned by ECPA for this Commission, and to decentralize this authority into other agencies with single-resource responsibility and no statutory interest in hydroelectric development.

Sixth, the Commission increasingly appears to subscribe to the theory that the protection, mitigation and enhancement of fish and wildlife resources, the cost of other non-power resources, and the creation of recreational opportunities, must be another cost of doing business for hydropower projects. That is so even if the effect is to render a new project uneconomical, or to prevent otherwise economic capacity additions to existing projects and relicensing.

Consequently, the Commission, too often, incorrectly interprets the equal consideration standard contained in ECPA as an equal treatment mandate—a position advocated by many special interest groups as well as several state and federal agencies. Indeed, it could well be argued that the Commission has from time-to-time treated power development values unequally by ascribing far too much weight to fishery or recreation values at the expense of needed power, leading in a number of cases to rejection of projects.

The result, over time, could eventually be the subordination of hydroelectric development in this country to non-power resources as a practical matter. Not surprisingly, this policy, by pushing many projects to the margin, has had a profound impact on the economics of developing hydropower in this country. I believe it is primarily responsible for the increasing lack of entrepreneurial interest in developing hydroelectric power capacity today.

Seventh, contributing to much of the difficulty in the hydropower program, I believe, is a form of bureaucratic paralysis in the timely processing of license applications and post-licensing compliance filings with the Commission. This is due to the increased opportunity the Commission provides opponents to argue again and again, procedural, as well as substantive, issues. Opportunities to make objections to staff and Commission actions abound in the current Commission licensing process.

Many of these objections come in the form of interventions and appeals asserting that Commission staff failed to properly perform NEPA reviews. Thus, the Commission has given opponents multiple chances to delay the actual construction and financing of the project by seeking rehearing at the Commission and judicial review at the appropriate Circuit Court of Appeals. That is precisely the kind of activity that is shackling the hydropower industry today.

Eighth, one of my primary concerns about the Commission's hydropower program is its increasing lack of credibility. I believe the program is becoming further jeopardized by continuing failure on the part of the Commission to provide reasonable certainty with respect to its licensing decisions.

In my prepared testimony, I describe in detail a case study of how credibility in the Commission's hydropower program has eroded since the enactment of ECPA.

The case I refer to briefly is Henwood Associates. Henwood was granted a license in 1987. Appeals and re-hearings were filed by opposing parties, which were finally denied by the Commission in July 1988. And, in my judgment, the project should have gone forward. However, on May 2, 1989, the Commission, on its own motion, stayed the license because of a thoroughly discredited allegation that, under ECPA, it illegally had refused to adopt the minimum flow recommendations of a state agency. The project, today, remains dead in the water while further, completely unnecessary negotiations with the state agency, continue.

The Henwood decision, understandably, sent shock-waves through the hydroelectric industry because it demonstrated again that today FERC licensing can be completely unpredictable, even two years after a license is issued.

In conclusion, it is imperative that FERC restore its commitment to implement ECPA in a manner which provides for continued hydroelectric development, and a viable hydropower option for this country, while equally considering non-power resources in the licensing process. Surely, there must be a national interest in making certain that this clean, domestic, reliable, renewable and cost-effective source of electric generation is available in the substantial quantities which clearly are possible and at a time when they will so obviously be needed.

Consequently, in light of that national interest, I would respectfully urge the subcommittee to press its review of ECPA's implementation by FERC with great vigor in these hearings.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Trabandt follows:]

TESTIMONY

OF

COMMISSIONER CHARLES A. TRABANDT
FEDERAL ENERGY REGULATORY COMMISSION

BEFORE

SUBCOMMITTEE ON WATER AND POWER
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

OVERSIGHT HEARING ON HYDROELECTRIC LICENSING

SEPTEMBER 28, 1989

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to appear before the Subcommittee with Chairman Hesse and my fellow Commissioners to assist the Subcommittee in examining the role of hydropower in the nation's electric supply mix and how the existing licensing regime affects hydroelectric development. This oversight hearing on hydroelectric licensing will focus in particular on whether the environmental review process created by the Electric Consumers Protection Act of 1986 (ECPA), as implemented, is producing licensing decisions that are in the overall public interest.

At the outset, I would like to congratulate the Subcommittee and Senator Bumpers for scheduling these hearings on this important subject. Perhaps too often in the hydroelectric licensing area of its jurisdiction, the Commission may tend to focus too narrowly on a case by case, decision by decision and issue by issue consideration of relevant facts and law. This hearing should assist the Commission and interested parties in addressing the larger policy aspects and ramifications of those decisions. Also, since it is three years since ECPA was enacted, it is quite appropriate for such a review of the impact of the implementation of the Act on hydroelectric development to be conducted.

GENERAL OVERVIEW

I believe that the implementation of ECPA and related provisions of the Federal Power Act, as interpreted more recently by the Commission, will have a profound and sweeping impact on the future availability of a hydroelectric option for the United States. In many respects, unfortunately, the impact could be quite negative in terms of pending projects in the FERC process and the likelihood of any major future projects. Such impact may not yet be completely obvious today in the Commission's hydroelectric program, but it is clearly possible over time in the future.

Of course, from a historical perspective, that new direction at FERC probably could not come at a worse time. Oil imports are rising rapidly again toward the 50% dependency level. Electrical demand projections are outstripping existing and planned capacity in some regions of the country. Clean Air Act requirements appear certain to become much more stringent for the production of energy. National and international concern about global warming may lead to further restrictions on the use of fossil fuels. Economic pressures for the improved competitiveness of U.S. products and services in international trade require domestic energy at lowest reasonable prices. And, in the face of those important factors, hydroelectric power is a clean, domestic, reliable, renewable and cost-effective source of electric generation for the nation.

Today, hydroelectric power represents approximately 13% of the installed generation capacity in this country, with 71,345 MW of capacity from conventional projects and 17,091 MW from pumped storage. Out of that 88,346 MW of developed capacity, FERC licensed about 47,000 MW. There is significant additional undeveloped capacity that could be developed to materially increase that figure, as well as improve the local and regional reliability of our electrical system and increase the diversity of electric fuel sources across the nation. For example, the Commission staff estimates that the total potential capacity of conventional and pumped storage capacity in the United States is 183,000 MW, which would double our existing hydroelectric capacity.

As of January 1, 1989, the Commission had issued licenses and exemptions for 649 projects currently unconstructed with a total potential installed capacity of 8,877 MW, including additions at existing projects. At the same time, 213 license and exemption applications were pending before the Commission with a total potential installed capacity of 4,292 MW. Also, 373 preliminary permits have been issued to study the feasibility of projects with an estimated capacity of 11,000 MW, while 102 preliminary permits are pending before the Commission with an estimated capacity of 4,675 MW. To put those figures in perspective, the estimated energy that could be generated from the total potential capacity licensed, but not constructed, and in the process of licensing would save about 145 million barrels of oil or 35 million tons of coal a year. Those MW capacity figures also should be compared against the 74,000 MW of new capacity projected by electric utilities to be needed by the year 2000. That is the substantive nature of the domestic hydroelectric resource subject to the FERC original licensing program today.

In addition, almost 235 existing licenses are scheduled to expire over the next eleven years with a total installed capacity of 5,215 MW. Those projects were first licensed up to 50 years ago, before many environmental laws were enacted. Thus, the equal consideration of resource values as set forth in ECPA's relicensing provisions will have an important, perhaps critical, impact on the continued operation and any potential expansion of those projects. Consequently, decisions made today in the licensing program will be of significance for the nation's existing hydroelectric capacity, which, as noted, totals thousands of megawatts, as well as for future development of the currently unlicensed potential.

The Conference Report for the legislation which was enacted as ECPA made clear that the Commission was required to give "equal consideration" to the purposes of energy conservation, the protection, mitigation and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality, in addition to the power and development purposes for which licenses are issued. Additionally, the Conference Report specified a particular focus on irrigation, flood control, navigation, cultural resources and other relevant river basin resources. At the same time, the Conference Report made clear that "equal consideration" did not require "equal treatment" as a substantive result, but rather that all waterway values would be considered and taken into account where there were competing interests.

Similarly, the Conference Report provided that the recommendations of federal and state resource agencies and certain state and federal resource plans must be considered fully by FERC in the licensing process. Again, however, the Conference Report made clear that the new law did not give such agencies a veto nor mandatory conditioning authority. Rather, the Conference Report sought to establish a meaningful consultation process generally, and a dispute resolution mechanism for fish and wildlife resources specifically, with the Commission as the ultimate decision maker. Importantly, the Commission also is not required by ECPA to adopt any Federal or state agency recommendations that are inconsistent with any other purpose of the Federal Power Act, including the power and development purposes for which licenses are issued.

In a nutshell, then, ECPA requires that FERC must conduct hydroelectric licensing with equal consideration of other resource values, in addition to power and development values. FERC must also review fully and objectively the plans and recommendations of other federal and state resource agencies within their respective areas of expertise. But, to ensure the continued viability of hydroelectric development and operation, FERC is not required by ECPA to provide equal treatment to other resources nor to be bound by the plans or recommendations of other agencies. Therein, in my judgment, lies the essential balance struck by Congress in ECPA to ensure a viable hydroelectric development option, while equally considering other resource values for appropriate action in the licensing process.

For a variety of reasons, the Commission more recently has tended to stray from that essential balance in case by case decisions and new interpretations of the provisions of ECPA and relevant portions of the Federal Power Act. That tendency to stray from the essential balance has manifested itself in decisions which give greater weight, if not outright mandatory authority and veto power, to other federal and state agencies. As a result, the ultimate decision making authority for FERC clearly envisioned by ECPA increasingly is now being defused and decentralized into agencies with single resource responsibility and no statutory interest in hydroelectric development.

Similarly, the equal consideration mandate enacted in ECPA increasingly is being implemented substantively in the form of equal treatment for other resources and even unequal treatment for the power and development values. Some projects have been rejected outright by the Commission under the rubric of equal consideration, while other projects have been rendered uneconomic, or marginally economic, as a result of costly and time consuming conditions in the form of studies, construction, relocation and related activities. The result of this new direction over time could be the complete abandonment of the essential balance struck by Congress in ECPA and the eventual subordination of any major future hydroelectric development to non-power resources in our nation's river basins and waterways.

It undoubtedly is true, as some will argue, that the expiration or repeal of various tax incentives for hydroelectric projects has affected negatively the economics of new projects. Also, many of the best sites for development have already been developed or are being developed with current projects in the licensing process. As a result of these and other factors, such as the world oil price, wild and scenic river designations, and so-called "protected river" proposals, applications for new-capacity licenses have fallen from a high of 324 applications in 1985 to approximately 140 applications in 1989, by comparison to a current total of over 1,400 licensed projects and almost 800 exempted projects. It, therefore, could be argued that the significance of both the licensing program and hydroelectric development have been diminished accordingly, and FERC decisions today are far less critical to the nation's energy supply situation.

For some, that may mean that the protection, mitigation, enhancement of fish and wildlife resources, the costs of energy conservation, and the existence of recreational opportunities just must be another cost of doing business for hydropower projects, even if the effect is to render a new project uneconomical or to prevent otherwise economic capacity additions to existing projects in relicensing. That, for some, could also mean that other state and federal agencies could and should have de facto mandatory conditioning authority, or outright veto power, in a manner that will consume costs, time, energy and resources for project developers. But, in the aggregate, those results in the licensing process would undoubtedly deter the commitment of financing for new capacity at new projects or additional capacity at existing projects. Certainly, the level of uncertainty and lack of regulatory predictability would be a major, further disincentive to any concerted hydroelectric development effort.

I would reject categorically those views of the current situation as being in direct conflict with the realities of the importance of the hydroelectric option in our nation's energy mix, as discussed above. I believe that it is becoming increasingly apparent that the United States is going to need every possible MW from hydroelectric generation in the decades ahead. Also, it is quite conceivable as the scenario unfolds that Congress will once again decide to support that result with various incentives. But, in the meantime, it is imperative that the FERC licensing process support as much responsible hydroelectric development today as possible and, at the same time, avoid creating any further regulatory disincentive to future hydroelectric development.

The fact that the Commission has continued to issue licenses does not assuage my concern about the future viability of the hydropower option. Most, if not all of the licenses issued since the enactment of ECPA contain conditions imposed by the Commission that make the projects less economic and, in many instances uneconomical or marginally economic. Indeed, it is highly questionable whether these issued licenses will ultimately be constructed or operated. The Conference Report clearly did not contain language that could be interpreted as a mandate to render hydropower development uneconomical or even marginal. Congress instead intended to keep hydropower a viable part of our nation's energy mix. By conditioning licenses with costly measures to more than adequately preserve, protect, and enhance the environment, the Commission ignores this important Congressional interest.

For that reason, I have strongly advocated a balanced approach in implementing the mandates of the Federal Power Act, including the amendments to that Act enacted by the Electric Consumer Protection Act of 1986. I have also sought to ensure that the Program maintained sufficient credibility so as to encourage interest in the continued development of this nation's hydroelectric potential. Thus, before the House Subcommittee on Energy and Power, of the House Committee on Energy and Commerce, I recently concluded that the Commission's hydroelectric licensing program must continue to maintain a viable future hydroelectric option for the nation, while building on the initial implementation of ECPA to ensure "equal consideration" of all river basin resources and values.

THE COMMISSION'S RECENT IMPLEMENTATION OF ECPA AND THE FEDERAL POWER ACT -- THE HYDROPOWER PROGRAM'S NEW "ACHILLES HEEL"

Over the course of these hearings you will undoubtedly hear from many who will point out the infirmities of the Commission's current hydropower program. I have listened carefully to their complaints over the last several years. Although some critics may not have realistic expectations under ECPA, the majority of those who are genuinely concerned about the continued viability of the hydropower industry raise important issues with respect to the Commission's administration of its hydropower program.

I think it is appropriate at the outset to mention the difficulty the Commission has in apportioning the time necessary to adequately review the very complicated and frequently controversial issues that, since the enactment of ECPA, often surface in the hydroelectric licensing area. The Commission has broad responsibilities for overseeing the domestic natural gas industry, electric utilities, hydroelectric projects, and oil pipelines. Gas matters absorb a large portion of the Commission's time because the volume of jurisdictional gas transactions far exceeds the volume of other jurisdictional energy supply activities. Additionally, electric utility policy matters have become increasingly demanding of Commission time and resources in the form of broad generic initiatives of significant importance. This fact, however, should not affect the "priority" the Commission ascribes to reviewing other jurisdictional energy supply activities, including primarily hydroelectric power issues. It certainly does not affect the importance I ascribe to the hydroelectric power issues.

I agree with the Chairman when she states that hydroelectric power issues often present some of the most technically challenging and controversial issues the Commission has to address in its decisionmaking process. This, quite clearly, is due in large measure to the perceived environmental impacts associated with the construction and operation of projects, and the adversarial approach taken by many special interest groups. Recently, these pressures have, in my opinion, served to coax the Commission to surrender significant portions of its jurisdiction over hydropower licensing when faced with challenges to its licensing authority by other agencies, or opt for "equal treatment" of non-power values or even "unequal treatment" for power development, when the adequacy of its "equal consideration" review is challenged by special interest groups as well as other agencies. The Commission clearly has the latitude under the current statutory scheme articulated in the FPA to maintain a truly viable hydroelectric licensing program, but seems to have lost its resolve to affirmatively meet its responsibilities as they are clearly articulated in the Federal Power Act as amended by ECPA.

Thus, it is my view that the problems most responsible for inhibiting the viability of the Commission's hydropower program emanate from the Commission's flawed interpretation and consequent implementation of relevant statutory provisions, rather than necessarily from inherent flaws in the draftsmanship of those statutory provisions. For example, there have been several recent Commission cases that by majority vote, in my view, surrendered too much Commission responsibility to other

Federal and state agencies, thereby creating confusion as to what agency has primary responsibility for ensuring a strong and viable hydropower program capable of meeting the current and future electric demands in an environmentally sound and reliable manner. In addition, there appears to be confusion about the relationship between the Commission and the two Federal land management agencies--the Bureau of Land Management (BLM) of the Department of the Interior and the Forest Service of the Department of Agriculture--in the regulation of the construction of hydropower plants.

Finally, the Commission too often incorrectly interprets the "equal consideration" standard contained in ECPA as an "equal treatment" mandate, a position advocated by many special interest groups as well as several state and Federal resource agencies. Indeed, it could well be argued that the Commission has, from time to time, treated power development values unequally by ascribing far to much weight to fishery or recreation values at the expense of needed power. Not surprisingly, this policy, by pushing many projects to the margin, has had a profound impact on the economics of developing hydropower in this country, and I believe it is primarily responsible for the increasing lack of entrepreneurial interest in developing hydroelectric power capacity.

The balance of my testimony provides: (1) a brief description of recent Commission cases that, in my view, seriously impaired the administration of the Commission's hydropower program by misinterpreting provisions of the Federal Power Act, as amended by ECPA; (2) a discussion of the current controversy between the Commission and the Federal land management agencies concerning the proper interpretation of a provision of the Federal Land Policy and Management Act; (3) a brief description of recent Commission cases that, in my view, misinterpret §401 of the Clean Water Act; (4) a case study of how credibility in the Commission's hydropower program has rapidly eroded since the enactment of ECPA; and (5) a discussion of the costly and time consuming nature of the Commission's implementation of the National Environmental Policy Act (NEPA). Contained within each of these topics of discussion are recommendations that I believe will help the Commission ensure far better the viability of its hydropower program. While some of the cases I will discuss are pending at the Commission on rehearing, I only repeat here the views I already expressed when the cases came before us, without prejudging the rehearing.

COMMISSION CREDIBILITY GAP -- A CASE STUDY OF THE TWISTS AND TURNS IN APPLYING §10(j)

Section 10(j), one of ECPA's amendments to the FPA, has been the focus of much attention by the Commission and federal and state fish and wildlife agencies, as well as special interest groups. The pressure from the special interest groups and some federal and state agencies has been to get the Commission to accept without question any recommendations submitted by federal and state fish and wildlife agencies. Most of the controversy seems to center on minimum flow requirements for the protection of aquatic resources.

Parenthetically, the Ninth Circuit Court of Appeals recently, in California v. FERC, No. 87-7538 (June 6, 1989), concluded that the FPA preempts state law with respect to minimum flow issues. This decision represents substantial reaffirmation of the Commission's primacy in regulating all aspects of licensed projects, and, to some extent, should allow licensees to escape duplicative or conflicting regulation by local jurisdictions.

However, this fact notwithstanding, many special interest groups and some federal and state agencies have been relentless in their pursuit of de facto mandatory conditioning authority in the Commission's licensing process with respect to minimum flow recommendations. Unfortunately, the Commission appears to be weakening under this pressure. Evidence supporting this observation is contained in a recent Commission majority decision where an issued license was unnecessarily stayed, consequently holding up construction of a project that was carefully reviewed by staff and approved by the Commission.

In Henwood Associates, Inc., the Commission by majority vote, concluded that its existing §10(j) procedures have been flawed, despite a spirited defense of those procedures in a January 13, 1989 letter to Chairman Dingell. The license issued to Henwood, despite it being a year old, was stayed by the Commission ostensibly because of an allegation by a state agency that the Commission illegally refused to adopt the minimum flow recommendations of a state fish and game agency in the §10(j) dispute resolution process. The agency did not provide any substantive support for its arguments that the Commission staff recommendations relied on invalid methodology and information. There was no allegation that Henwood failed to comply with any Commission regulation or condition of its license or otherwise violated any Federal or state law. Indeed, the agency simply asserted that its recommendations with respect to minimum flow must be adopted by the Commission pursuant to §10(j) of the FPA.

In an apparent effort to assuage the disgruntled state agency, the majority of the Commission adopted a recommendation from the Commission's Office of General Counsel (OGC) to find fault with the manner in which the Commission's Director of the Office of Hydropower Licensing complied with §10 (j) of the FPA. At the Commission's March 29, 1989 meeting where this matter was reviewed, the Commission was told by OGC that, in the Henwood proceeding, because the Director may not have used precise enough language in his letter to the state agency informing it that there was a conflict which, in fact, triggered the §10(j) dispute resolution process in this proceeding, the entire §10(j) negotiation already performed by staff in the Henwood proceeding was fatally flawed.

In effect, OGC argued that such a possible ambiguity may have prevented the state agency from realizing that the §10(j) dispute resolution process was triggered and the nature of the dispute and resolution process. In order for the Director to cure this infirmity, OGC argued it is necessary for the Director in his letters to agencies with whom there is potential for conflict, to use the precise triggering language contained in the statute: that a recommendation "may be inconsistent with the purposes and requirements of [Part I of the FPA] or other applicable law."

This analysis, when reviewed in the clear light of day, amounts to nothing more than legal sophistry. The Order suggests that without the "magic language" described above, state agencies could not reasonably be expected to understand that the conflict to be resolved rested on unacceptable impact of its recommendations on project viability. The Order expressly states that had the state agency understood that the conflict to be resolved rested on the unacceptable impact of its recommendations on project viability, it is possible that a mutually agreeable resolution of this conflict could have been achieved. The majority thus concluded that the state agency in fact did not understand the true nature of the conflict after months of negotiation with Commission staff. With all due respect, this conclusion does not withstand scrutiny.

First, this order is a formal expansion of § 10(j) before we have had the benefit of comments in response to the promised § 10(j) Notice of Proposed Rulemaking (NOPR). The Commission, for all practical purposes, has concluded that the existing procedures have been flawed, despite the spirited defense of those procedures in the January 13 letter to Chairman Dingell. Then, the Commission sua sponte has mandated a further procedural and substantive remedy for the state agency to pursue its largely discredited minimum flow demands. In effect, the Commission has already amended the § 10(j) process because of the alleged "magic language" defect, and concurrently resurrected the state agency minimum flow recommendation from the graveyard of the analytical dead, without even issuing the NOPR. That result clearly marks a dramatic new emphasis on the substantive recommendations of fish and wildlife resource agencies, even in the most extreme of cases, such as the 15 cfs recommendation.

Second, when this matter was discussed at the Commission's March 29, 1989 meeting, Office of Hydropower Licensing staff stated that it was their understanding the state agency knew exactly what conflict needed to be resolved and that the issue of unacceptable impact on project viability was directly addressed. OHL staff represented that there had been extensive communication between OHL and the state agency before and after the formal letter, during which the nature of the dispute and the dispute resolution process were unambiguously clear to the state agency, such that, as a factual matter, it was completely inconceivable that the state agency did not totally understand the situation. As this was the staff that negotiated with the state agency, it is inappropriate to question their understanding of events, especially in the absence of countervailing evidence. No such evidence ever materialized.

On the contrary, there is ample evidence available in the record of this proceeding that proves the state agency clearly knew what was at issue. Simply stating the "magic words" of the statutory triggering language would not have joined the issue any better or more unambiguously. As a professional matter, the state agency was well aware of the new § 10(j) dispute resolution process enacted by Congress in 1986 and was well informed about the Commission's efforts through OHL to implement procedures pursuant to the new process. It is quite simply absurd as a factual matter to even suggest otherwise. Since there was no error in the first instance, there is nothing to cure.

Third, even if the rationale contained in the Order is taken in its best light, it still only amounts to harmless error. The substantive issue over which the OHL staff and the state agency disagree is whether the state agency's conditions requiring cessation of winter diversion flows and a minimum flow of 15 cfs or natural flow, whichever is less, from April 1 through October 31 each year, should be included as conditions in Henwood's license. As the Order points out, the Commission staff completed an Environmental Assessment (EA) wherein the contentions of both the state agency and Henwood on the issues of winter flow diversions and minimum flows were discussed. The Director's May 7, 1987 letter to the state agency referred to above, expressly notified the agency that a conflict existed between the agency's minimum flow recommendations and those made by Commission staff in the EA for the Dynamo Pond Project. The letter concluded by asking the agency to review the attached EA and provide within 30 days "comments and any possible reconciliation of any inconsistencies that may exist."

The EA pointed out that staff's recommendations were based on a balancing of factors associated with the flow issue, one of which was the project's viability. After analyzing both the state agency and Henwood's positions on minimum flows, the EA states:

> On balance, the staff concludes that operating the proposed project with a 5-cfs (sic) continuous minimum flow would adequately protect trout in the bypass reach.

EA at 12.

Moreover, it is significant to note, as the Order does in footnote 32, that the state agency's recommended minimum flow was found to be extreme by the State Water Resources Board. In a decision of the State Board's Division of Water Rights, that approved Henwood's application to appropriate water, the State Board concluded that Henwood's proposed 5 cfs bypass would result in considerable habitat losses, but on the other hand, that the state agency's 15 cfs recommendation was "excessive".

Additionally, one of my primary concerns about the Commission's hydropower program is its credibility. I believe the program is becoming jeopardized by a continuing failure on the part of the Commission to provide reasonable certainty with respect to its licensing decisions. Henwood was granted a license over a year ago. There is no allegation that Henwood failed to comply with any Commission regulation or condition of its license or otherwise violated any Federal or state law. Instead, the Commission ostensibly stayed a license because of an allegation that it illegally refused to adopt the minimum flow recommendations of a state agency and a fatally flawed conclusion about the possible ambiguity in the § 10(j) dispute resolution process. The state agency did not assert the "magic language" defense. The state agency did not provide any substantive support for its arguments that the Commission's staff recommendations rely on invalid methodology and information. Indeed, the State Water Board determined the state agency's recommendations to be excessive.

I would note that the state agency brought suit in state court against the State Water Resources Control Board in the Henwood case, seeking a writ of mandate that the Board was obligated by state statutes to adopt the minimum flow position of the state fish and game agency without discretion or balancing of other competing uses. The Court, in a Notice of Intended Decision of April 14, 1989, denied the petition of the state fish and game agency upon a finding of substantial evidence for the Board's decision. Importantly, the Court noted, "When the total average flow of Green Creek is observed, it is obvious that during November to April that the average does not reach the 9 cfs let alone the 15 cfs." Thus, on the basis of the litigated record in the state court, it is obvious that the Commission's conclusion to reject the 15 cfs minimum flow recommendation of the state agency and adopt the alternative proposal of the Commission staff was eminently reasonable and fully consistent with the plain meaning and Congressional intent of § 10(j). It is equally obvious that the further proceedings ordered here by the Commission, and the thinly veiled direction to the Commission staff to renegotiate the result, were without any substantive merit and only constitute a frivolous waste of Commission resources.

Finally, before the House Subcommittee on Energy and Power, of the House Committee on Energy and Commerce, I stated that I am becoming increasingly concerned about the viability of the Commission's hydroelectric licensing program. As I explained in my testimony before that Committee, my concern stems from several recent Commission cases that by majority vote, in my view surrendered too much Commission responsibility to other Federal and state agencies. I further stated that any weakening of Commission resolve to affirmatively meet its responsibilities under the Federal Power Act will reduce the effectiveness of the Commission's hydropower program and thereby limit a valuable and important ingredient to our nation's energy fuel mix. It is particularly ironic that the Commission would pursue such a policy at a time when the need for additional power from renewable resources is becoming increasingly pronounced. At the March 29, 1989 Commission meeting, the Commission, again by majority vote, added two more cases to the casualty list of Commission resolve: the Henwood case, and Joseph Martin Keating Project No. 7267, in which I also dissented. (See discussion infra at p. 21).

Without expressly admitting it in the order, the only compelling reason for the result adopted in the instant case is to assuage further political concern on this matter. Given the bald facts in this case, there can be little doubt that Henwood is nothing more than a sacrificial lamb on the alter of regulatory gamesmanship.

SECTION 4(e) OF THE FPA

Section 4(e) of the Federal Power Act, 16 U.S.C. §797(e), provides that licenses issued within any United States reservation must be found by the Commission to not interfere or be inconsistent with the purpose for which such reservation was created, and must include such conditions as the Secretary of the department under whose supervision such reservation falls shall deem "necessary for the adequate protection and utilization of such reservation." The Supreme Court in Escondido Mutual Water Co. v. La Jolla Band of Mission Indians, 466 U.S. 765 (1984), held that the conditioning authority discussed in §4(e) is indeed **mandatory** with respect to "original" licenses.

In the City of Pasadena Water and Power Department, 46 FERC ¶ 61,004 (1989), the majority found that mandatory conditioning authority of §4(e) of the Federal Power Act applies to projects located on Federal land in "relicensing" proceedings. This decision is contrary to Commission precedent, which as recently as a 1984 Supreme Court filing, the Commission considered controlling.

This decision puts in jeopardy 40% of the projects (68 projects) that will be subject to relicensing in the next several years. In my opinion, this decision seriously and unnecessarily impairs incentive to invest the burdensome up-front costs associated with the construction and operation of hydropower projects, and leaves those who did invest years ago in a project that received an original license in a potentially serious, and unfair, financial dilemma.

As noted above, the Commission had a different view on this issue in 1975. In Pacific Gas & Electric Company, 53 F.P.C. 523 (1975), the Department of Agriculture challenged the Commission's issuance of a December 19, 1974 order issuing "new license" for the constructed Bucks Creek Project No. 619, located in Plumas County, California. In its petition for rehearing of that order, the Department of Agriculture alleged that §4(e) of the FPA required the Commission to include Agriculture's recommendations as conditions in any license (**both original and new licenses**) irrespective of whether these recommendations are in accordance with the information of record in the proceeding. The Commission denied Agriculture's rehearing petition and in so doing, made clear its position with respect to the applicability of §4(e) in relicensing proceedings:

> Initially we note that under the Act new licenses are issued under Section 15 rather than under Section 4(e). But even assuming that Section 4(e) were applicable in this proceeding the new license would not interfere or be inconsistent with the purpose for which such reservation was created or acquired. The authority to make such a finding is that of the Commission alone. Such a finding must be made, of course, in the light of and in accordance with the information of record in the proceeding. Thus, while the Commission gives great weight to the judgment and recommendations of the Department concerned, the Commission nevertheless must act on the basis of the record as a whole and must exercise its judgment to insure that the project, if licensed, meets the requirements of Section 10(a) of the Act [which applies

> by its terms to all licenses issued under Part I of the Act].

53 F.P.C. at 526 (footnotes omitted). The Commission in Escondido acknowledged this case as valid precedent in its Supreme Court Reply Brief (FERC Reply Brief at 16). Moreover, following the Supreme Court's decision in Escondido the Office of General Counsel in a May 22, 1984 Memorandum to the Commission discussing the impact of the Escondido decision upon the hydroelectric licensing program under Part I of the FPA, stated as follows:

> It should be underscored that Escondido interpreted the Federal Power Act only as it applies to the issuance of an original license. It left open the application of Section 4(e) on relicensing. Slip op. at 13-14 n.23. **It has been the Commission's position that Section 4(e), containing the Secretary's mandatory conditioning language, does not apply when a project is up for a new license (relicensing) upon the expiration of the original license.**

(Emphasis added.) Now, under the City of Pasadena precedent, Federal land management agencies, by utilizing the mandatory conditioning authority discussed and affirmed in the Escondido Supreme Court decision with respect to original licenses, can effectively veto a Commission relicensing decision by affixing conditions to a new license that make the existing project uneconomical.

There are several flaws in the legal analysis contained in the majority's opinion. With all due respect to the Federal land management agencies, it is clear from reading their statutory mandates that they are rather narrowly endowed with responsibilities for "administering" the land under their jurisdiction and are not, nor should they be, entrusted with the much broader responsibilities contained in the Federal Power Act. More importantly however, there is a clear Congressional intent articulated in the legislative history of the Federal Power Act to protect certain interests that was ignored by the majority when it decided to have §4(e) apply to relicensing.

In contrast to the expansive issues that can dominate initial licensing, Congress, when it first enacted the FPA, intended that relicensing would focus primarily on three concerns: protection of the United States' takeover rights under §14, the interest of the original investors in the project, and the interests of consumers who paid for the project through their electric rates and benefited from its fuel-free power. To protect these interests Congress substituted §15 for §4(e) in relicensing proceedings. This intent was clearly reflected in the 1919 Senate Report on H.R. 3184, a bill identical in all relevant respects to the one enacted a year later as the Federal Water Power Act. Referring to the provision that became §15, the Senate Report explained:

> It is the opinion of practically all those acquainted with investments of this kind that this language is necessary to insure the investment of capital in these great and much needed enterprises. The interests of the Government and public are not impaired. The works must be continued in operation at the end of 50 years in order that the industries created by them and dependent upon them may not suffer. Private capital should not be required to do this upon unreasonable terms nor should its property be confiscated. Under this provision, if the new license is not accepted, the works will be carried on under the original license from year to year with the Government free to take it over at any time that it may be prepared to do so or to turn it over to a new licensee upon terms that can be agreed upon. In other words, the Government is free to do what it may desire to do, capital is reasonably sure of a return of its investment, and the public is assured permanent service under its own regulative agencies.

S. Rep. No. 180, (September 12, 1919) (emphasis added).

At the December 14, 1988 Commission Meeting where City of Pasadena was discussed, concern was expressed that if the Commission could only issue new licenses with conditions that had to be similar or identical to the original license conditions in order to preserve the original investment and protect consumers, the Commission would in effect be sanctioning "perpetual franchises", something the conferees of the 1920 water power bill expressly agreed not to do. See, Conference Report No. 910 (to accompany H.R. 3184) (April 30, 1920). However, the Commission is not required to issue new licenses with conditions that are similar or identical to the original license conditions. The Commission is required to assess during a relicensing proceeding whether the existing project is still best adapted to the comprehensive plan of development for the affected waterway. If conditions have changed, the project will be modified in a manner that appropriately takes into consideration all factors effecting the public interest pursuant to §10 of the FPA.

This requirement was rather elaborately enhanced by the 1986 ECPA amendments to Part I of the FPA. ECPA had particular emphasis on §15, the relicensing section of the Act, and in rich detail made clear that changed circumstances at existing project sites would not go unnoticed by the Commission.

The City of Pasadena case is just but one of several examples where the Commission has exhibited a weakening of resolve to affirmatively meet its responsibilities under the Federal Power Act. The consequence of such actions has been and will continue to be a reduction of the effectiveness of the Commission's hydropower program, thereby limiting a valuable and important ingredient to our nation's energy fuel mix.

SECTION 18 OF THE FPA

The Commission, by majority vote, made a similar mistake in the Hydro Relicensing Regulations (Final Rule--Order No. 513). The majority included in the Final Rule a determination that the authority of the Interior and Commerce Departments to prescribe fishways for projects under section 18 of the FPA applies to relicensing proceedings. Section 18 reads, in pertinent part:

> The Commission shall require the construction, maintenance, and operation by a licensee at its own expense of . . . such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

As in City of Pasadena discussed above, the majority's decision unnecessarily jeopardizes two important Congressional interests in Commission relicense proceedings: to protect the interests of the investors and the project's customers.

The Commission's decision in Lynchburg Hydro Associates, 39 FERC ¶ 61,079 (1987), cited in the Final Rule, held *inter alia*, that the authority to prescribe fishways could be reserved by the responsible agencies prior to the Commission's issuance of an original license. However, this reserved authority has to be expressly requested by the responsible agencies and expressly included in the license. 39 FERC ¶ 61,079 at p.61,219.

If such authority was reserved in an original license and never acted on, I seriously question whether carrying that reserved authority into a relicense proceeding would be appropriate after 30, 40 or 50 years of operations. The design and installation of fishways at hydroelectric projects is, generally speaking, very costly in terms of construction, operation and maintenance costs, and potential negative impact on project operations and power generation. A potential licensee should be given the opportunity to include in any economic feasibility assessment a reasonable estimate of expected future expenses. It is unreasonable to issue a license to an applicant and not at least put the licensee on notice that significant expenses are yet to come, or to let decades pass without any action under the reserved authority.

With respect to relicense applications that propose to do nothing more than continue the existing operation without any modifications, it appears to me to be grossly inappropriate to permit Interior or Commerce to require the design, construction, operation, and maintenance of costly fish passage facilities without requiring Interior or Commerce to meet at least some threshold standard of extraordinary circumstances. If the responsible agencies did not request or have the Commission expressly reserve the authority to prescribe fishways during the processing of an original license, or if it was reserved but never used during the original term of the license, those agencies should carry a heavy burden of proof when attempting to impose this requirement during the processing of a relicense application.

Moreover, I believe that it is the responsibility of the Commission to evaluate and determine whether the request of Interior or Commerce to prescribe fishways is necessary or appropriate in a relicense proceeding under the general rubric of "equal consideration" of all power and resource values. The language contained in section 18 does not clearly indicate that Interior and Commerce have an unquestionable right to impose fishways on a "relicense" applicant. Indeed, as the Final Rule itself points out at page 22 of the slip opinion, the legislative history of section 18 is sparse, and nothing in it indicates section 18 does or should automatically apply to relicensing proceedings.

I also place considerable significance from a statutory construction perspective on the decision of Congress to enact the section 15 process in ECPA. I find it inexplicable that Congress would have enacted section 15 with regard to the subject of fish and wildlife recommendations more generally, if there was any conceivable argument that section 18 should apply to relicensing. In the alternative, if section 18 was deemed to apply to relicensing, it is my belief Congress surely would have noted that and rationalized its application as part of section 15.

THE FEDERAL LAND POLICY AND MANAGEMENT ACT (FLPMA)

Section 501(a)(4), 43 U.S.C. 1761(a)(4), of FLPMA, provides in pertinent part:

> (a) The Secretary [of the Interior], with respect to the public lands and, the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for --
>
> * * *

> (4) systems for generation, transmission and distribution of electric energy, except that the applicant shall also comply with all applicable requirements of the Federal Power Commission under the Federal Power Act of 1935.

This provision has caused considerable controversy to erupt between the Commission and the Departments of Interior and Agriculture. It is my understanding that the Commission's staff is currently attempting to resolve an issue concerning the ability of a Commission licensee or permittee to enter project land (when that land affects Federal land) before the licensee or permittee obtains a Federal "right-of-way" from Interior's Bureau of Land Management (BLM). This issue is a consequence of BLM construing the above referenced provision as authority for requiring Commission licensees and permittees to obtain BLM right-of-way permits before entering or occupying Federal lands for the purposes of their licenses or permits. Without going into the "nuts and bolts" of the current controversy, I highlight it simply to point out the confusing morass of statutory overlay that is partially responsible for the dilemma that currently envelopes the hydropower industry.

However, I should note in this regard that Chairman Dingell of the Committee on Energy and Commerce, House of Representatives, recently authorized the Comptroller General to review FLPMA and determine the effects which proposed legislation, H.R. 3593, might have on the relationship between the Commission and the two Federal land management agencies with respect to hydropower development. The Comptroller General completed its review and concluded the following:

(1) FLPMA gives the land management agencies the authority to determine whether to grant or deny rights of way (ROWs) for the construction of hydroelectric power plants on federal lands, even though the FPA gives FERC the primary role in regulating hydroelectric power plants. The language of FLPMA is unambiguous in this regard, and the legislative histories of FLPMA and FPA are not sufficiently compelling to support FERC's assertion that it has exclusive authority over hydroelectric power plants on federal lands.

(2) If the authority of the land management agencies, in relation to FERC, required clarification, the proposed legislation, H.R. 3593, would not eliminate the ambiguity.

(3) H.R. 3593, by requiring the land management agencies to make specific findings before they could grant ROWs for water projects, would appear to reduce the discretion they have under existing law to grant such ROWs and would expand the scope of interests the agencies are obligated to protect.

Although I do not concur with the Comptroller General's findings, his conclusions help to underscore the relevance of my concern with respect to the majority's decisions to apply §§4(e) and 18 mandatory conditioning authority to relicense proceedings. Indeed, as the majority's order in City of Pasadena acknowledges in note 15, the §4(e) conditions submitted by the United States Forest Service (USFS) and included by the Commission in the new license issued to the City of Pasadena caused the Commission some concern in an original license proceeding. See Camille Held, 42 FERC ¶ 61,032 at 61,218-19 (1988). These conditions require USFS approval of all final design plans and, in addition, state, inter alia, that "[i]n the event there is a conflict between any provisions of the license and [Forest Service Special Use Authorization (SUA)] the [SUA] shall prevail on matters which the [USFS] deems to affect National Forest System Resources."

Although the Commission has held that its licensees are not required to obtain SUAs in order to use public lands for project purposes, see Escondido Mutual Water Company, 9 FERC ¶ 61,241 (1979) (Opinion No. 36-A), the USFS now asserts that such permits are appropriately required under their §4(e) authority. Similarly, other land management agencies, such as the Department of Interior's Bureau of Land Management, could assert authority to require "right of way" permits (discussed above) for projects that use or affect government lands. We can reasonably expect the Department of Commerce's National Marine and Fisheries Service and the Department of Interior's Fish and Wildlife Service to assert this authority under §18 as well.

Under Escondido, 466 U.S. at 777, it is for the courts, not the Commission, to determine whether the §4(e) conditions are appropriate. As a result of the majority's decisions in City of Pasadena and the Hydro Relicensing Final Rule, the applicant for a new license in a relicensing proceeding can only challenge the Secretary's conditions on appeal after completion of the Commission's relicensing process, rather than during that process. Consequently, the specter of protracted and costly litigation will have potentially devastating impact on needed projects throughout the country. This impact could have been softened if the Commission interpreted §§4(e) and 18 as applying only to "original" license proceedings, which, as I outlined above, is consistent with what I believe Congress intended.

SECTION 401 OF THE CLEAN WATER ACT

Another problem that appears to discourage development interest in the hydro option is the Commission's interpretation of §401 of the Clean Water Act. There is little question as to what rights a state certifying agency has prior to the issuance of a §401 certificate within the one year statutory waiver period. Its decision to deny or issue a certificate with conditions should, with the possibility of a narrow exception (more fully discussed below) be reviewed in a state administrative or judicial forum.

There is increasing evidence that some state certifying agencies are overreaching their authority by including requirements that do not relate to water quality issues in their certifying process, in an apparent attempt to delay and consequently to discourage hydropower development in their states. In this regard, a recent New York State court decision is worthy of note. In a June 22, 1989 letter decision in Long Lake Energy Corp. v. New York State Department of Environmental Conservation, Judge Bradley granted Long Lake's petition to set aside NYSDEC's rejection of Long Lake's application for 401 certification. NYSDEC had found the application to be incomplete, apparently because Long Lake had failed to supply information regarding the proposed hydroelectric project's operational effects on such parameters as navigation, flooding, fisheries, and other aquatic resources. The court held that NYSDEC is, by statute, limited to determining whether relevant water quality standards will be met, and that it exceeded its authority in inquiring as to other matters.

There have been several instances where the Commission, apparently feeling compelled as a matter of law, has tacitly sanctioned what I believe to be "illegal" conditions, simply because these conditions were attached to the §401 water quality certificates issued by a particular state. An example is the recent order issuing license to the City of Grafton for Project No. 7307. The water quality certificate issued in that proceeding by the State of West Virginia included an extensive provision regarding "recreation". In my view, such a provision is clearly illegal. However, the Clean Water Act states that the conditions contained in a validly issued certificate automatically become a part of any license. Some would interpret this provision as giving the states "mandatory conditioning authority" for licenses issued by this Commission with respect to water quality issues.

However, such an interpretation clearly puts the Commission in the awkward position of having to enforce an illegal water quality condition. I do not believe that this or any other agency is required to acknowledge, let alone enforce, a condition in a water quality certificate that has nothing to do with determining whether relevant water quality standards will be met. I sincerely hope that this Commission will not enforce such conditions and in the future, will make that clear in any licensing decision that entails such a scenario.

Another §401 issue worthy of note is what authority the Commission has to override a state attempt to revoke or rescind a §401 certificate **already validly issued**. More specifically, does the Commission have authority to determine the validity of a state's purported revocation of a §401 certificate issued under the U.S. Army Corps of Engineers Nationwide Permit Program for a proposed project ? The Commission, by majority vote, said no in the recent Commission case of Joseph Martin Keating, 47 FERC ¶ 61,170 (1989). I vigorously dissented in that case explaining that at the heart of the matter was a Federal question concerning the limits on participation in the U.S. Army Corps of Engineers' nationwide permit program, a determination this Commission could certainly make after a full analysis of the Federal program. What is so troubling to me about this case, is that the majority made its decision without soliciting input from the Corps on how it deals with the problem of revocations, while it solicited input from the relevant state agency on how it viewed the matter.

Generally speaking the Commission's reluctance to aggressively review §401 issues simply is not justified by any legal impediment. Rather, the justification seems to come from a desire to avoid potential conflict with the states. It is particularly ironic that the Commission would pursue such a policy at a time when the need for additional power from renewable resources is becoming increasingly pronounced.

On a more positive note, I was heartened by the Commission's recent decision not to revisit the retroactive application of Order No. 464 governing state waiver of water quality certification. The Commission at its January 25, 1989 meeting determined that, on balance, the equities were not enough to cause the Commission to reverse its earlier decision to have its water quality certification waiver rule, embodied in Order No. 464, apply retroactively to projects whose request for certification was more than one year old. This decision caused several states to seek Commission reconsideration. However, because the rule involved an interpretation of law, that interpretation was applied upon issuance of the order on February 11, 1987, even though the procedural aspects of the rule were not implemented until the effective date of the rule, May 11, 1987. Consequently, the Commission decided to deny reconsideration in 1987. According to the discussion that took place during its deliberation of a second request for reconsideration initiated by Chairman Dingell at its January 25, 1989 meeting, several of my colleagues made reference to the equities in the case and the fact that the Commission adopted 98% of the water quality recommendations as the basis for determining not to revisit the issue.

INFORMATION GLUT -- OVERDOING THE PUBLIC PARTICIPATION IN THE PRE-FILING CONSULTATION STAGE OF THE RELICENSING PROCESS

The majority adopts in section 16.8 of the Hydro Relicensing Final Rule a new requirement for formal public participation in the joint meeting of the applicant and the resource agencies under paragraph (b)(3) in the first stage of mandatory pre-filing consultation. The purpose of the meeting is for the applicant and the resource agencies to review the applicant's information package and to discuss the data and studies to be provided by the applicant in the relicensing process. The applicant, under section 16.8(i), must give prior public notice and also now make available to the public the same information package provided to the pertinent agencies. Members of the public in attendance at the joint meeting now are entitled to participate fully and express their views regarding resources issues that should be addressed in any new license application. Also, at the discretion of the existing license applicant, the public can participate in the site visit held for officials of the pertinent agencies coincident with the joint meeting. This new requirement for public participation in the joint meeting is justified on several grounds by the majority in the preamble, Order No. 513, slip op. at 125-129.

With all due respect for my colleagues in the majority, there was no need for them to concoct a regulatory requirement for public participation in the pre-filing consultation stage of the Final Rule. I believe that, in fact, the procedure adopted by the majority has unnecessarily complicated the pre-filing process and, indeed, may work to inhibit, rather than facilitate, meaningful public participation at this stage of the relicensing process.

Nothing in the Federal Power Act or ECPA requires that the Commission provide for formal public participation in the consultation process that precedes a formal license application proceeding for either original licensing or relicensing. Indeed, FPA §15, as amended by ECPA, contains specific provisions requiring advance notice to the public of an existing licensee's intent to file an application for a new license. It also requires that extensive data pertaining to the project be make available to the public at the time of the advance notice. Yet, Congress did not accompany these provisions with an expansion of the public's existing right to participate as interveners in formal license application proceedings. So, it is clear that the majority has chosen, in its discretion, to establish such a right, even though it is not required by statute.

Moreover, I believe that the Commission's current licensing process, which begins with the filing of an acceptable license or new license application, provides ample opportunity for meaningful public participation. Following the acceptance of an original or new license application, the Commission publicly notices the application. The notice contains pertinent details describing the location, design, and mode of operation, as well as other facts related to the proposed project that can be used to determine the potential impact the proposed project may have on the environment. The notice also provides enough information for the public to assess whether riparian or other property rights will be affected by the proposed project.

The public is given an opportunity to meaningfully participate in the license proceeding as parties by filing a motion to intervene within the time prescribed in the public notice. Becoming a party in a license proceeding entitles one to receive all filed documents in the proceeding, and participate fully at each stage of the formal proceeding, and also ensures the right to seek an appeal or rehearing of any Commission action that may be perceived by a party to be adverse to its interest. In any and every imaginable situation, the Commission, if persuaded on the merits by any party's arguments, has more than ample authority in relicensing to address any resource issue and adequately remedy any identified environmental problem. The timing of this public participation does not diminish one iota the Commission's available authority to efficiently and effectively respond to any and all environmental concerns, even where additional analysis or study may be necessary. If rehearing is sought and then subsequently denied by the Commission, a party has a right to seek judicial review of the Commission's decision.

In the relicensing context, an existing licensee is required to notify the Commission five years prior to the expiration of its license whether or not it will apply for a new license for the project (the "notice of intent" or "NOI"). Concurrent with this notification, and as noted above, the existing licensee must make extensive information about the project available for public inspection at its business offices. Upon receipt of the existing licensee's notice of intent, and years before a formal license application is filed at the Commission, the Commission issues a public notice in the local newspaper that identifies the project and states when and where the project information is available. There is, quite simply, no need for and no real benefit from formal public participation in the pre-filing consultation process at this time, because no application has yet been filed with the Commission that would trigger a formal licensing proceeding. However, I believe that active, but informal public involvement can, and indeed should, begin at this point in the relicensing process without the need for additional regulatory requirements adopted by the majority.

Any interested person or entity, for example, has the opportunity at this time to contact the applicant in order to find out more about the project. Once an interested person or entity has reviewed the information made publicly available pursuant to the NOI, a preliminary assessment of the impacts caused by the project can be made in order to develop an informal dialogue with the applicant as to how to resolve potential problems. There is ample opportunity during the remainder of the consultation process to work informally with the applicant to discuss perceived problems. Clearly, active public discussion at this stage of the process provides a precious "early warning" advantage to the applicant. This "early warning" can be used by the applicant to effectively respond to what could otherwise become after the filing of an application, a protracted bureaucratic process that would include appeals and rehearings and, possibly, evidentiary trial-type hearings before administrative law judges. This potential consequence is obviously not in the applicant's best interest and should provide the incentive necessary for the applicant to pursue meaningful discussion with all interested parties.

In addition to contacting and working closely with the applicant, interested persons or entities also have the opportunity to approach the state or Federal resource agencies at this early stage in the process to either assist or seek assistance in reviewing potential problems. For these reasons, I conclude that rules requiring formal public participation prior to the time an acceptable license application is filed are neither legally required nor necessarily an appropriate policy. As discussed above, there is ample opportunity for the public to get involved informally during the time frame of the pre-filing consultation process, should anyone wish to do so.

However, I do not mean to diminish the genuine concern my colleagues obviously feel about ensuring public involvement at the earliest stage in the relicensing process. Requiring the potential applicant to hold a public meeting at or near the site of the existing project to obtain the views of the public regarding resource issues that should be addressed in any application for new license would have been an acceptable, and in my view more prudent, alternative method of guaranteeing public involvement prior to the actual filing of an application. To accommodate the meeting participants' varying work schedules, the public meeting could have included both day and evening sessions and the potential applicant could have been required to publish advance notice of the meeting in a local daily or weekly newspaper. In addition, the potential applicant could have been required to make audio recordings or transcripts of the meeting and further required to make a copy of the record available to the Commission and any resource agency that requests one.

The formalized regulatory method adopted by the majority, in my view, unjustifiably encroaches on state public participation prerogatives by strongly encouraging state agencies, if not all but requiring them, to participate with the applicant and the interested public at a public meeting prior to the filing of an application with the Commission. Such a requirement will likely have a chilling effect on open and candid exchanges between resource agencies and the applicant.

In addition, such a procedure will encourage posturing by various interest groups and resource agencies for their respective constituencies at a stage when candor and cooperation is most important. Including private organizations with narrow parochial concerns at this stage of the process also clearly risks meetings that will be too large and unwieldy to control with numerous requests for otherwise unjustified studies and analysis. Since the public meeting is at such a preliminary point in the process, interests of the various parties could and in all likelihood will, change by the time the application is filed. Moreover, the eventual formal application may be changed materially from the proposal at the time of the NOI and the beginning of the pre-filing consultation process with the resource agencies. Indeed, that is one of the several objectives of the process prior to filing of the formal application, i.e. developing the most acceptable form of application to be filed.

Moreover, under this rule the applicant is now required to set up this public meeting as part of its compliance responsibilities with our relicensing regulations. Presumably failure to do so could cause the application to be patently deficient or at least deficient, even if all other requirements imposed by our regulations were adequately met. Ironically, original license applicants are not required to do this under the Commission's current regulations, certainly without any basis in law, and in all likelihood will counterproductively disserve the clear public interest and Congressional intent in an expeditious and effective relicensing process.

Two other aspects of the majority's new public participation requirement cause serious concerns. First, the confidentiality provisions of the NOPR and the earlier drafts of the final rule have been adjusted now to reflect the formal and mandatory participation of the public in the first joint meeting of the applicant and the resource agencies. In some respects, those adjustments will serve to tilt the confidentiality approach against the existing license applicant and extend certain competitive advantages to new competing applicants, solely because of the new public participation. I view that result as generally contrary to the clear intent of Congress for at least a "level playing field", if not more, for existing licenses in ECPA. Second, at the time of the majority decision, I argued that public participation now in only the first joint meeting will be argued by proponents as providing only a symbolic participation gesture. Not surprisingly, several parties have submitted petitions for rehearing wherein they demand full public participation throughout the entire pre-filing consultation process as the only way to deal responsibly with the public. Thus, this first step in that direction could, in the absence of future restraint by the majority, become a slippery slope to the demise altogether of the important consultative process with resource agencies.

SECTION 31--CIVIL PENALTIES AS A CUDGEL TO COERCE UNLICENSED PROJECTS IN TERROREM TO ACCEPT FERC JURISDICTION

On August 17, 1988, the Commission issued Order No. 502, its Final Rule on the Procedures for Assessment of Civil Penalties under Section 31 of the Federal Power Act. In that Rule, the Commission determined that §31, the enforcement provision of the Federal Power Act, applied to owners of projects that the Commission believed should be licensed as well as to owners of licensed and exempted projects, despite the fact that the plain language of §31 quite clearly states that civil penalties could be assessed by the Commission only against licensees, permittees, or exemptees. I expressed my views on this subject in dissenting opinions attached to both the final rule and the rehearing of the final rule. I have submitted both for your review. I remain very concerned that the civil penalty authority will be used effectively to coerce many unlicensed hydroelectric operators to either submit to licensing at great expense or simply cease operations altogether. For example, the response of Fairfax County, Virginia in one early case was simply to disconnect an unlicensed hydroelectric project used for emergency power from the local grid, rather than submit to the difficulties and costs of the Commission's licensing process. I honestly do not believe that Congress intended that result in ECPA.

On June 9, 1989, I filed responses to questions submitted by the House Subcommittee on Energy and Power relating to this subject. In those responses I reiterated my conclusion that as a matter of law, civil penalties only apply to licensees, permittees, and exemptees under the 1986 amendments to the FPA. However, in addition I stated that as a matter of policy, the potential application of civil penalties to projects that "should have a license" creates an intentionally coercive impact on unlicensed project operators in their decision about whether and how to contest a jurisdictional assertion by the Commission staff, as detailed in the petitions for rehearing of Order No. 502 and my dissents referenced above. That policy result, in my judgment, is clearly contrary to the 1986 Amendments and also offends well-settled principles of administrative due process.

Question 1 of the House Subcommittee's questions on this subject also asked about the application of the civil penalty authority in the Wolverine Power Company case, where the Commission issued a Notice of Proposed Penalty on February 23, 1989. I have included a copy of that Notice for your review. My views on the case are reflected on page 6 of the Notice. As a matter of law, I do not believe the Commission has the authority to assess civil penalties in this case. The better course of action would have been for the Commission to seek injunctive relief against Wolverine requiring an acceptable license application, since Wolverine had long since conceded the Commission's jurisdiction.

Although I originally supported the penalty assessment contained in the Notice in that case, upon further reflection and subsequent consideration of information on the practices of other Federal agencies assessing civil penalties, I have concluded that the proposed penalty total of $2000 per day from October 16, 1986 (the date of the enactment of ECPA), and the resulting total of $1,708,000 through February 15, 1989, may be unduly harsh. For example, the Commission did not decide finally that such civil penalties could be assessed at all against unlicensed projects until December 13, 1988, in Order No. 502-A, which otherwise certainly was not clear nor expressed on the face of the 1986 date as a practical matter, and constitutes a de facto retroactive application of the Commission's new civil penalty authority under these circumstances.

Also, the $2000 per day figure is based in part on two factors, (1) whether Wolverine had actual knowledge or constructive knowledge of the violations, and (2) whether Wolverine has a history of previous violations, which do not accurately reflect the statutory standards for determining the amount of the penalty. Since I believe those factors bore heavily on the Commission's calculation of the $2000 per day assessment, the total may be too high as a result. Finally, a review of the practices of other Federal agencies indicates that the $1.7 million total under these circumstances, particularly on a retroactive basis, may be too high.

In many respects, the Wolverine case is an unusually extreme and virtually unique case for the application of civil penalties to an unlicensed project, because the issue of jurisdiction had been conceded long before the enactment of the 1986 Amendments and license applications had been filed with the Commission. The Commission has always had the more direct and immediate option under the Federal Power Act of seeking injunctive relief, which it has failed to use for various reasons over the years. The Wolverine case, however, should not be allowed to color the analysis of the much more typical and clearly intended application of civil penalties to coerce other existing unlicensed projects to concede FERC jurisdiction when confronted on an adversarial basis by a Commission staff jurisdictional determination. Under those circumstances, most, if not all, of the factors used to support the proposed civil penalty in the Wolverine case are largely irrelevant.

Even if Congress in the 1986 Amendments can be argued to intend the proposed application in some form of civil penalties to Wolverine, which I do not concede, that begs the more fundamental issue of generic application to unlicensed projects where a final jurisdictional determination has not been made by the Commission and the project operator has not sought nor received a license.

A MAKEOVER OF THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Contributing to much of the difficulty in the hydropower program I believe is a form of bureaucratic paralysis in timely processing license applications and post-licensing compliance filings at the Commission due to the increased opportunity the Commission provides opponents to argue again and again procedural as well as substantive issues. Opportunities to make objections to staff and Commission actions abound in the current Commission licensing process. Many of these objections come in the form of interventions and appeals asserting that Commission staff failed to properly perform National Environmental Policy Act (NEPA) reviews.

The appeals and interventions typically include allegations that a license or preliminary permit was prematurely granted because the environmental review did not contain adequate information as is required by NEPA. Many of these appeals are frivolous, but cost many Commission staff hours in preparing Commission orders that respond to each and every allegation made in each pleading. Moreover, the delay caused by these pleadings filed at the Commission and subsequent pleadings filed at appropriate Circuit Courts of Appeal, frustrate attempts by licensees to get needed financing for the development of their projects.

I fear that this leverage is being used in many instances to obtain funds and other mitigation and enhancement measures that would otherwise not be included in licenses. Some settlements between resource agencies and licensees with projects located in the Northwest are being filed at the Commission that include agreements by licensees for conditions that subsidize studies that have questionable benefits to the public.

This represents, in my view, a serious distortion of NEPA. NEPA does not require a federal agency to obtain all the information that is possibly available on a particular resource before that agency can decide what action it should take in a particular case. Also, NEPA does not specify what studies are appropriate to obtain specific information. NEPA only requires that an agency take a "hard look" at the environmental consequences of its actions and then decide, based on an adequate record of a particular proceeding, what action is in the public interest. As the District of Columbia Circuit Court held, an "EIS. . . is not an end in itself, but rather a means toward the goal of better decisionmaking." Friends of the River v. FERC, 720 F.2d 93, 106 (D.C. Cir. 1983) (citation omitted).

In addition, I must register again my serious reservations generally about multi-project EIS's based on "cumulative impacts," as well as my fundamental opposition specifically to the Cluster Impact Assessment Procedure (CIAP). I have always felt somewhat disquieted by the Commission's approach when reviewing potential cumulative impacts to the environment in specific regions throughout the country. One of my primary concerns with respect to the cumulative impact analysis approach has always been that "sacrificial lambs," (projects that would otherwise be licensable on an individual basis in separate proceedings) would be offered to appease groups opposing all power development in a region where power is needed.

Although the Commission, after reevaluating the wisdom of pursuing the CIAP approach, has apparently decided to forego further CIAPs, at least for the time being, I note that the Commission sometime in the near future will have before it the results of a completed CIAP for the Salmon River Basin in Idaho. I look forward to reviewing the completed assessment, and hope it will reflect a balanced approach along the lines I have discussed today.

ATTACHMENT

44 FERC ¶ 61,256

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

[18 C.F.R. Part 385]

Procedures for the Assessment of Civil Penalties under Section 31 of the Federal Power Act

[Docket No. RM87-24-000]

ORDER NO. 502

FINAL RULE

(Issued August 17, 1988)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Final Rule.

SUMMARY: The Federal Energy Regulatory Commission (Commission) is issuing a final rule to establish procedures for the assessment of civil penalties under section 12 of the Electric Consumers Protection Act of 1986 (ECPA).

Under the final rule, hydroelectric licensees, permittees and exemptees, or any persons who should have a license under or exemption from the Federal Power Act but do not, are subject to civil penalties of up to $10,000 per day for each violation of Part I of the Act, any rule or regulation issued under Part I of the Act, any term or condition of a license or permit issued under, or exemption issued from, Part I of the Act, or a compliance order issued under section 31(a).

EFFECTIVE DATE: This final rule is effective [insert date that is 60 days after publication in the Federal Register].

FOR FURTHER LEGAL INFORMATION CONTACT:

Julia Lake White
Office of the General Counsel
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426
(202) 357-8530

SUPPLEMENTARY INFORMATION: In addition to publishing the full text of this document in the Federal Register, the Commission also provides all interested person an opportunity to inspect or copy the contents of this document during normal business hours in Room 1000 at the Commission's Headquarters, 825 North Capitol Street, N.E., Washington, D.C. 20426.

The Commission Issuance Posting System (CIPS), an electronic bulletin board service, provides access to the texts of formal documents issued by the Commission. CIPS is available at no charge to the user and may be accessed using a personal computer with a modem by dialing (202) 357-8997. To access CIPS, set your communications software to use 300, 1200 or 2400 baud, full duplex, no parity, 8 data bits, and 1 stop bit. The full text of this final rule will be available on CIPS for 10 days from the date of issuance. The complete text on diskette in WordPerfect format may also be purchased from the Commission's copy contractor, La Dorn Systems Corporation, also located in Room 1000, 825 North Capitol Street, N.E., Washington, D.C. 20426.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

[18 C.F.R. Part 385]

Before Commissioners: Martha O. Hesse, Chairman;
Charles G. Stalon and Charles A. Trabandt.

Procedures for the Assessment of Civil Penalties under Section 31 of the Federal Power Act	)))	Docket No. RM87-24-000

ORDER NO. 502

FINAL RULE

(Issued August 17, 1988)

I. INTRODUCTION

The Federal Energy Regulatory Commission (Commission) is issuing final rules establishing procedures for the assessment of civil penalties under section 12 of the Electric Consumers Protection Act of 1986 (ECPA). 1/

II. BACKGROUND

ECPA was enacted on October 16, 1986. Section 12 of ECPA amended the Federal Power Act (Act) by adding a new section 31. 2/ Section 31 3/ now authorizes the Commission to assess civil penalties in certain circumstances. The Commission issued a notice of proposed rulemaking (NOPR) establishing procedures for the assessment of civil penalties on August 3, 1987. The NOPR was published in the Federal Register on

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1/ Pub. L. No. 99-495, 100 Stat. 1243 (1986).

2/ Codified at 16 U.S.C. § 823b.

3/ Section references are to sections of the Act unless otherwise indicated.

August 6, 1987. 4/ Comments were to be received by October 5, 1987. Eight comments were filed. 5/ The Commission has reviewed these comments and is issuing the rules substantially as proposed. A discussion of the comments with minor clarifications of the rule is provided below.

III. SUMMARY OF THE FINAL RULE

Under the Commission's regulations, licensees, permittees and exemptees, or any persons who should have a license under or exemption from the Act but do not, are subject to civil penalties of up to $10,000 per day for each violation of Part I of the Act, any rule or regulation issued under Part I of the Act, any term or condition of a license or permit issued under, or exemption issued from, Part I of the Act, or a compliance order issued under section 31(a). 6/ The amount of the penalty will reflect the nature and seriousness of the violation and the timely remedial efforts of the person against whom the penalty is proposed. The Commission will consider the person's compliance history, whether the person possessed actual or constructive knowledge of the violation, whether the violation resulted in

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4/ 52 Fed. Reg. 29,216 (1987).

5/ Comments were received from Alabama Power Co. (Alabama Power), American Public Power Association (APPA), Consumers Power Co. (Consumers Power), Edison Electric Institute (EEI), National Hydropower Association (NHA), Niagara Mohawk Power Corporation (Niagara Mohawk), Orange and Rockland Utilities, Inc. (Orange & Rockland) and Pacific Gas and Electric Co. (PG&E).

6/ Violations include failures or refusals to comply, as these terms are used interchangeably in section 31.

loss of life, and whether persons, property or the environment were damaged or endangered. In accordance with ECPA, no penalty will be assessed where a license or exemption is revoked. 7/

The Commission will provide notice of the proposed penalty and, where applicable, of the person's right to make an election between the Commission's administrative procedures under section 31(d)(2) and trial court procedures in United States District Court under section 31(d)(3). The person will then have 30 days to elect in writing the procedural course to be followed. An election may be revoked only with the consent of the Commission.

If an election is not made, or if an election is not applicable, then the Commission's administrative procedures will apply. After an opportunity for a hearing, the Commission may issue a civil penalty assessment order. The person against whom the penalty is assessed may appeal to the appropriate United States Court of Appeals within 60 days. 8/ If a person fails to pay the civil penalty assessment after a decision by the Court of Appeals, the Commission will institute an action to recover the penalty plus interest. 9/

7/ Codified at 16 U.S.C. § 823b (1982).

8/ The rehearing provisions of section 313 remain applicable. Repeals by implication are not favored. St. Martin Evangelical Lutheran Church v. South Dakota, 451 U.S. 772, 788 (1981); Posadas v. National City Bank, 296 U.S. 497, 503 (1936).

9/ The Commission will collect interest pursuant to the Debt Collection Act. 31 U.S.C. § 3717 (1982).

If an election is made in favor of the trial court procedures, the Commission will promptly assess the penalty and, if the penalty is not paid within 60 days, initiate an action in United States District Court for an order affirming the civil penalty. If the penalty is not paid within 60 days after the District Court has entered a final judgment in favor of the Commission, the Commission will use applicable court procedures to collect on the judgment plus interest. Finally, the regulations also provide that, in certain circumstances, the Commission may modify a civil penalty.

IV. COMMENTS

A. Scope of the Rule.

Some commenters dispute the Commission's authority to assess civil penalties to persons who, without Commission authorization, construct or operate a hydropower project that requires authorization or who otherwise violate Part I of the Act. 10/ They argue that ECPA limited the scope of the civil penalty provision only to those who are licensees, permittees or exemptees. The Commission disagrees. In enacting ECPA, Congress intended to apply the civil penalty provision not only to those who have a license, permit or exemption, but also to those who are required to have a license or exemption.

By strengthening the enforcement provisions of the Federal Power Act, Congress sought to provide the Commission with

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10/ *See* NHA, Niagara Mohawk and Orange & Rockland.

additional authority to compel operators of hydropower projects to comply with the law and Commission regulations and orders. The legislative history indicates that Congress intended civil penalties to apply not only to authorized operators of hydropower projects but also to those who are required to have a license or exemption but have failed to secure one. The ECPA enforcement provisions originated in the House of Representatives. The House Committee on Energy and Commerce, which drafted the enforcement section, explained that the purpose of the section was to buttress and improve the Commission's enforcement capability in dealing with certain concerns. The very first concern highlighted by the House Report was the problem of unlicensed hydroelectric projects. The report quoted Edward G. Horn, chief ecologist for the New York State Department of Environmental Conservation, as follows:

> At the present time, numerous hydroelectric stations throughout the country, particularly in the Northeast, are being operated without licenses or exemptions from licensing. Many of these operations are adversely affecting the fulfillment of state and/or federal objectives related to resource enhancement which are embodied as conditions attached to newly-licensed, exempted, or relicensed developments within the same basin. For example, provisions for adequate minimum downstream releases, minimum turbine mortality to fish, construction and operation of upstream and downstream fish passage facilities, water quality, public safety and recreational access to project lands and waters are essential to the completion of ongoing natural resource programs designed to protect and enhance indigenous fishery resources and to permit the reestablishment of

> historic anadromous fisheries. (emphasis in original) 11/

The Committee further emphasized that it expected "FERC to locate projects that are being operated without legal authority and to enforce the law." 12/ In enforcing the law, the new civil penalty tool was clearly intended to be available for any problem covered by subsection (a) of the ECPA enforcement section. 13/ The House Committee specified that civil penalties could be applied "for failure or refusal to comply with a subsection (a) order or any matter referenced in subsection (a) or for violations of such matters or orders." 14/ There is therefore no support for an argument that Congress reflected its concern about unlicensed operations in subsection (a) but not in subsection (c), the civil penalty provisions. In short, the legislative history shows that Congress was concerned about unlicensed operations, expected the Commission to assure compliance with the licensing structure, and gave the Commission enhanced authority, in the form of civil penalty powers, to enforce the law.

Furthermore, to interpret the civil penalty provision in a manner other than applying to those who have or should have a license as well as those who violate Part I of the Act would not

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11/ H.R. Conf. Rep. No. 99-507, 99th Congress, 2nd Sess., at 39 (1985).

12/ Id.

13/ See note 2.

14/ Id. note 11.

only be contrary to Congressional intent but could lead to the result of encouraging operators of hydropower projects to violate the FPA and operate without a license when they are required to have one. For example, a licensee who constructed a project but who then violated a Commission order and damaged the environment would be subject to civil penalties, while a person who committed the same acts resulting in the same damage but who, in violation of the law, did not have a license, would not be subject to a civil penalty.

The Commission is not compelled by the literal reading of the Act to reach such a result. As the Supreme Court declared in American Trucking,

> There is, of course, no more persuasive evidence of the purpose of a statute than the words by which the legislature undertook to give expression to its wishes. Often these words are sufficient in and of themselves to determine the purpose of the legislation. In such cases we have followed their plain meaning. When that meaning has led to absurd or futile results, however, this Court has looked beyond the words to the purpose of the act. Frequently, however, even when the plain meaning did not produce absurd results but merely an unreasonable one "plainly at variance with the policy of the legislation as a whole" this Court has followed that purpose, rather than the literal words. 15/

Congress did not intend to favor those who do not comply with the law over those who do. The commenters have been unable to cite any legislative history to support their narrow reading of a licensee, permittee or exemptee to exclude those who should have licenses or exemptions. At no point during the hearings

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15/ U.S. v. American Trucking Associations Inc. et al., 310 U.S. 534, 543 (1940).

that preceded ECPA or during the Committee consideration or floor statements was there any discussion of intent to limit the applicability of the ECPA civil penalty provisions in the manner suggested by the commenters. The Commission's interpretation reflects the Congressional purpose. 16/

B. Authority and Identification of Section 31(a) Compliance Orders.

Some commenters assert that orders issued pursuant to delegated authority by technical staff should be clearly identified as compliance orders if the violation of these orders may serve as the basis for civil penalties. 17/ These commenters believe there must be a clear distinction between compliance orders and the more informal correspondence between Commission technical staff and the public.

The Commission or Commission staff will clearly identify any "compliance order". This compliance order will indicate that the order is issued pursuant to section 31(a).

16/ In a similar situation, the Court of Appeals for the Ninth Circuit has interpreted the phrase "registered under this Act" in the Commodity Exchange Act, 7 U.S.C. § 60(1) (1982), as applying not only to those actually registered but also to those engaged in activities which require registration. The court stated that "[t]he purpose of the statute supports this interpretation of congressional intent. It would be anomalous indeed if an advisor could escape the fiduciary duties of section 40 by avoiding required registration. This would frustrate a principal purpose of the Act." Commodity Futures Trading Commission v. Savage, 611 F.2nd 270, 282 (9th Cir. 1980).

17/ See Alabama Power, EEI, Niagara Mohawk and PG&E.

C. Consideration of Additional Factors.

PG&E argues that the total picture of license activities should be factored into a penalty decision, with both aggravating and mitigating circumstances evaluated. The Commission notes that nothing in the rule precludes the Commission from considering any information submitted to it. The person receiving a notice of proposed penalty has the opportunity to make a submission in its answer. 18/ In addition, the Commission's Rules Relating to Investigations also provide for submissions. 19/ The list of factors in Rule 1505 is not intended to be exclusive. This will allow the Commission to exercise its discretion whether or not to consider other factors in assessing civil penalties.

EEI asserts that the Commission should not consider past violations when determining a proposed civil penalty amount. EEI argues that the Commission does not have the legal authority to consider past violations and that consideration of these violations contradicts the Commission's decision that it will not assess civil penalties for violations ending prior to the enactment of ECPA. The Commission disagrees. In considering the nature of a present violation, the Commission intends to take into account the violator's compliance history. The Commission believes that an increased penalty is necessary for a repeat

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18/ See Rule 1507(a).

19/ See 18 C.F.R. §§ 1b.18-19 (1987).

violator in order to adequately encourage compliance and to protect the environment and provide greater public safety. The Commission also recognizes that a first-time violator should not necessarily be penalized as severely as a repeat violator.

NHA asserts that the Commission should formally add a criterion to reflect the ability of the licensee or exemptee to pay a proposed penalty. 20/ The Commission declines to do this. Congress did not require the Commission to take ability to pay into account. The Commission notes, however, that the final rule does not preclude the Commission from considering a violator's ability to pay. The Commission merely declines to make this a formal requirement. The Commission's regulations are revised to provide that the Commission may consider other factors in assessing civil penalties. The Commission is simply declining to specify any additional factors as formal factors that must be considered in assessing civil penalties.

D. Knowing Violations.

PG&E would have the Commission assess penalties only for knowing violations and would exclude violations that a licensee did not know of and could not reasonably be expected to know. The Commission declines to implement such a narrow implementation of section 31. Where Congress intended a "knowing" standard as a limiting condition to the imposition of sanctions under ECPA, it

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20/ NHA states that proposed Rule 1505 "provides an appropriate set of considerations for the amount of civil penalties", with the exception of the absence of an explicit "ability to pay" criterion.

stated so explicitly. 21/ It has not done so here. However, in assessing a civil penalty, the Commission will take into account whether the violation was a knowing one. As stated in the proposed and final rule, a knowing violation will generally result in a greater penalty. 22/

E. Opportunity to Correct Conduct and Resolve Jurisdictional Disputes.

NHA requests that the Commission issue a notice of non-compliance, with an opportunity for the licensee or exemptee either to change its conduct or to contest the issue of non-compliance, prior to triggering liability for civil penalties. Alabama Power and EEI believe that the Commission should resolve all legal and jurisdictional disputes and provide the project operators the opportunity to bring the project into compliance before enforcing the civil penalty provisions.

APPA argues that assessment of civil penalties is an action to which the Commission should only resort when efforts on the Commission's part that are reasonable relative to the nature of the violation involved have failed to produce constructive response on the part of the licensee. APPA believes that civil penalties should not be peremptorily imposed in cases of minor or inadvertent violations.

While the Commission may initially contact persons in an effort to resolve instances of noncompliance, the Commission

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21/ See section 31(b)(1).

22/ See Rule 1505.

declines to institute this approach as a necessary condition before assessing civil penalties. Section 31 does not require this step and the Commission declines to limit its enforcement authority. If the Commission limited the assessment of civil penalties to violations which continued after the person received a notice from the Commission that the person's conduct constituted a violation, this would have the practical effect of limiting the application of civil penalties only to knowing violations. Even knowing violations would be free of civil penalty if the violator later agreed to bring a project into compliance. These results are contrary to the intent of Congress in strengthening the Commission's enforcement powers. The final rules, however, do provide that the Commission will issue a notice of proposed penalty prior to actually assessing a civil penalty. 23/ The Commission will also consider timely remedial efforts in all civil penalty assessments. 24/

The Commission notes that it has the discretion to decide not to assess civil penalties. Any determination not to assess civil penalties will be made on a case-by-case basis. The Commission also notes that in most instances the Commission may likely seek compliance prior to issuing a notice of proposed penalty, but it will not be mandatory for the Commission to proceed in this manner. The Commission, therefore, declines to

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23/ See Rule 1506.

24/ See Rule 1505. The Commission may also modify a civil penalty. See Rule 1510.

bind itself in a rule to never assessing a civil penalty for so-called "minor" violations.

NHA argues that civil penalties are only legally authorized for failure to comply with compliance orders. The Commission disagrees. The statute does not limit civil penalties to this single type of violation. Section 31(c) clearly indicates that a violation of a compliance order is merely one type of violation which may result in a civil penalty. By its terms, section 31(c) applies to violations of "any rule or regulation . . . any term, or condition of a license, permit, or exemption . . . or any [compliance] order . . . " (emphasis added).

F. Informal Discussions.

EEI argues that implementation of section 31 should not adversely affect the ability of licensees and exemptees to work with Commission staff to discuss perceived problems and to develop creative and workable solutions. The Commission agrees and encourages such dialogues to avoid violations in the first instance as well as to expeditiously remedy violations when they occur. The Commission believes that the potential for civil penalties will encourage early informal discussions as persons seek advice from the Commission or staff where they previously may not have been inclined to seek such advice.

G. Coercion.

EEI is concerned that the Commission could use civil penalties to coerce project owners into the Commission's jurisdiction, and that the effect of imposing liability on those

who operate unlicensed projects "raises the stakes" in any contest over jurisdiction. Civil penalties do give the Commission greater enforcement authority than before, and the Commission believes that this authority will encourage greater compliance. This is what Congress intended. Because the stakes are now higher, the Commission believes persons will be more inclined to request a determination from the Commission as to whether a project is jurisdictional prior to commencing construction or operation of a hydropower project.

H. Exhaustion of Remedies.

EEI and Niagara Mohawk argue that the Commission should not be allowed to assess civil penalties until a party has exhausted appellate remedies before the Commission and the courts. The Commission notes that when Rule 1509 district court procedures are followed, the assessment of civil penalties by the Commission merely triggers the process leading to a de novo trial. In the alternative, when Rule 1508 administrative procedures are followed, the civil penalties can only be collected after a decision by the Court of Appeals. The Commission, therefore, does not believe it should delay assessing a civil penalty until appellate remedies before the Commission and the courts are exhausted.

Additionally, while the Commission has the discretion to grant a stay of its orders, and a court may likewise stay the effect of Commission orders, orders are effective in accordance with their terms. 25/ Moreover, Rule 713(e) of the Commission's Rules of Practice and Procedure clearly states that the filing of a request for rehearing does not itself operate to stay an order. 26/ In effect, commenters would have the Commission modify existing Rule 713(e) to stay the effect of its orders, including orders finding jurisdiction, until appellate remedies have been exhausted. The Commission declines to do this on a generic basis. Rather, the Commission will exercise its administrative discretion to stay its orders on a case-by-case basis.

I. Necessity for Evidentiary Hearing.

Niagara Mohawk argues that when the Commission proceeds under 31(d)(2) it must provide a trial-type hearing unless there are exceptional circumstances. Section 31(d) of the Act requires the Commission to provide an opportunity for an evidentiary hearing before assessing a civil penalty.

Consumers Power argues that the Commission must provide an opportunity for an evidentiary hearing before an administrative law judge before it can issue a compliance order under section 31(a). EEI further argues that the Commission should construe "notice and opportunity for public hearing" in section 31(c) as extending, as a minimum requirement, the right to a hearing in

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25/ Section 309 of the FPA provides that orders of the Commission will be effective on the date and in the manner the Commission prescribes. Section 313(c) of the FPA provides that the filing of an application for rehearing will not, unless specifically ordered by the Commission, operate as a stay of the Commission order.

26/ 18 C.F.R. § 385.713(e) (1987).

which the licensee's facts can be put into the record prior to the issuance of a compliance order issued pursuant to section 31(a). The Commission disagrees. The Commission does not propose to require an evidentiary hearing prior to issuing a section 31(a) compliance order. Congress did not intend cumbersome procedures at this preliminary stage of the civil penalty assessment process. 27/ A compliance order issued by the Commission or its delegate pursuant to section 31(a) will be preceded ~~proceeded~~ by an opportunity to respond in writing, with written submissions placed into the public record, to satisfy the notice and hearing requirement of the preliminary stage of the compliance process. The Commission also notes that a person will have an opportunity, as required by section 31(c) and (d)(2)(A), for a trial-type hearing later in the proceeding before the Commission assesses the civil penalty.

J. Pursuit of Appeal Rights.

EEI asserts that pursuit of appeal rights should not be construed as conduct which is subject to civil penalties or which increases the amount of civil penalties. The Commission does not intend to punish persons because they have filed an appeal. At

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27/ See, e.g., U.S. v. Florida East Coast Railway, 410 U.S. 224, 234 (1973), and Commodity Exchange, Inc. v. CFTC, 543 F. Supp. 1340 (S.D.N.Y. 1982). For statutes enacted after the Administrative Procedure Act, inclusion of the precise phrase "on the record after opportunity for an agency hearing" is evidence of the need for more formal trial-type proceedings. The Commission notes that this phrase appears only in section 31(d) for assessing civil penalties, and not in section 31(a) for issuing compliance orders.

the same time, the mere filing of an appeal does not free any person from liability for engaging in unlawful conduct that is subject to civil penalty. For example, unless a compliance order is stayed, a violation of that order may serve as the basis for a civil penalty. While the Commission intends to review expeditiously appeals and requests for stay of compliance orders, persons are on notice that they are at substantial risk if they continue to violate a compliance order that is ultimately upheld. The Commission fully expects persons to obey its orders.

K. Collection Actions.

Niagara Mohawk and Consumers Power assert that the Commission is precluded by section 31(d)(5) from initiating a collection action in U.S. District Court at the same time it institutes a de novo action in U.S. District Court to affirm a civil penalty assessment. When filing an action in district court, the Commission will include in that pleading a request to the district court to order the defendant to pay a civil penalty. District courts permit applicants to incorporate into one pleading both a petition affirming a civil penalty assessment and a petition ordering the recovery of the civil penalty assessment.

V. REGULATORY FLEXIBILITY ACT CERTIFICATION

The Regulatory Flexibility Act of 1980 (RFA) requires a description and analysis of final rules that will have a "significant economic impact on a substantial number of small

entities." 28/ An agency is not required to make an RFA analysis, however, if it certifies that the rule will not have such an impact.

For the reasons discussed in the NOPR, the Commission certifies that this rule will not have a significant economic impact on a substantial number of small entities.

VI. THE NATIONAL ENVIRONMENTAL POLICY ACT STATEMENT

The Commission concludes that promulgating this rule does not represent a major Federal action having significant adverse effect on the human environment under the Commission's regulations implementing the National Environmental Policy Act. 29/ The Commission believes this rule is procedural in nature and therefore falls within the categorical exemptions provided in the Commission's regulations. 30/ Consequently, neither an environmental impact statement nor an environmental assessment are required.

VII. EFFECTIVE DATE

This final rule is effective [insert date that is 60 days after publication in the Federal Register].

28/ 5 U.S.C. §§ 601-612 (1982).

29/ 52 Fed. Reg. 47,897 (Dec. 17, 1987), III FERC Stats. & Regs. ¶ 30,783 (Dec 10, 1987).

30/ 18 C.F.R. § 380.4(a)(2)(ii) (1987).

List of Subjects in 18 C.F.R. Part 385

Administrative practice and procedure
Pipelines
Reporting and recordkeeping requirements

In consideration of the foregoing, the Commission amends Part 385, Chapter I, Title 18, Code of Federal Regulations, as set forth below.

By the Commission. Commissioner Trabandt dissented with a separate statement attached.

(S E A L)

Lois D. Cashell

Lois D. Cashell,
Acting Secretary.

PART 385 - RULES OF PRACTICE AND PROCEDURE

1. The authority citation for Part 385 is revised to read as follows:

Authority: Department of Energy Organization Act, 42 U.S.C. 7101-7352 (1982); E.O. 12009, 3 CFR 1978 Comp. p. 142; Administrative Procedure Act, 5 U.S.C. 551-557 (1982); Independent Offices Appropriations Act, 31 U.S.C. 9701 (1982); Federal Power Act, 16 U.S.C. 791-825r (1982) as amended by Electric Consumers Protection Act; Natural Gas Act, 15 U.S.C. 717-717w (1982); Natural Gas Policy Act, 15 U.S.C. 3301-3432 (1982); Public Utility Regulatory Policies Act of 1978, 16 U.S.C. 2601-2645 (1982); Interstate Commerce Act, 49 U.S.C. 1-27 (1976).

2. Subpart O is added to Part 385 to read as follows:

Subpart O - Procedures for the Assessment of Civil Penalties Under Section 31 of the Federal Power Act

Sec.

385.1501 Scope (Rule 1501).
385.1502 Persons subject to civil penalties (Rule 1502).
385.1503 Actions subjecting persons to civil penalties (Rule 1503).
385.1504 Maximum civil penalty (Rule 1504).
385.1505 Determination of proposed penalty amount (Rule 1505).
385.1506 Notice of proposed penalty (Rule 1506).
385.1507 Election of procedures and answer (Rule 1507).
5.1508 Election of Commission administrative procedures (Rule 1508).

385.1509 Election of district court procedures (Rule 1509).

385.1510 Modification of civil penalty (Rule 1510).

385.1511 Collection of civil penalties (Rule 1511).

Subpart O - Procedures for the Assessment of Civil Penalties Under Section 31 of the Federal Power Act.

§ 385.1501 Scope (Rule 1501).

The rules in this subpart apply to and govern proceedings for the assessment of civil penalties pursuant to section 31 of the Federal Power Act, 16 U.S.C. 823b.

§ 385.1502 Persons subject to civil penalties (Rule 1502).

(a) Any licensee or permittee under the Federal Power Act, or exemptee from any requirement of Part I of the Federal Power Act, may be subject to civil penalties; and

(b) Any person who must have a license under, or exemption from, the Federal Power Act, but does not, may be subject to civil penalties.

§ 385.1503 Actions subjecting persons to civil penalties (Rule 1503).

(a) The actions that subject persons to civil penalties are violations of:

(1) Any rule or regulation issued under Part I of the Federal Power Act;

(2) Any term or condition of a license or permit issued under Part I of the Federal Power Act or an exemption issued from any provision of Part I of the Federal Power Act;

(3) Any compliance order issued under section 31(a) of the Federal Power Act; or

(4) Any requirement of Part I of the Federal Power Act.

(b) Only actions occurring on or after October 16, 1986, may subject a person to civil penalties.

§ 385.1504 Maximum civil penalty (Rule 1504).

(a) Except as provided in paragraph (b) of this section, the Commission may assess a civil penalty of up to $10,000 for each day that the violation continues.

(b) No civil penalty may be assessed where a license or exemption is ordered revoked.

§ 385.1505 Determination of proposed penalty amount (Rule 1505).

(a) In determining the amount of a proposed penalty, the Commission will consider the nature and seriousness of the violation, and the efforts of the licensee, exemptee, permittee or one who should possess appropriate authority but does not, to remedy the violation in a timely manner.

(b) In making its determination under paragraph (a), the Commission will consider the following factors:

(1) Whether the person had actual knowledge of the violation;

(2) Whether the person had constructive knowledge of the violation deemed to be possessed by a reasonable individual acting under similar circumstances;

(3) Whether the person has a history of previous violations;

(4) Whether the violation caused loss of life or injury to persons;

(5) Whether economic benefits were derived because of the violation;

(6) Whether the violation caused damage to property or the environment;

(7) Whether the violation endangered persons, property or the environment;

(8) Whether there were timely remedial efforts;

(9) Whether there were untimely remedial efforts;

(10) Whether there were no remedial efforts; and

(11) Whether there are any other pertinent considerations.

§ 385.1506 Notice of proposed penalty (Rule 1506).

(a) Before issuing an order assessing a civil penalty under this subpart against any person, the Commission will provide to the person notice of the proposed penalty.

(b) The notice of proposed penalty will:

(1) Include the amount of the proposed penalty;

(2) Include a statement of the material facts constituting the alleged violation; and

(3)(i) Inform the person of the opportunity to elect in writing within 30 days of receipt of the notice to have the procedures of Rule 1509 (in lieu of those of Rule 1508) apply with respect to the assessment, or,

(ii) If a final compliance order is issued under section 31(a) of the Federal Power Act, no notice of election will be

provided for a violation of, or a failure or refusal to comply with, the final order.

§ 385.1507 Election of procedures and answer (Rule 1507).

(a) If the respondent receiving the notice of proposed penalty wishes to have the procedures of Rule 1509 apply, then the respondent must file with the Commission, within 30 days of receipt of the notice, a notification of the election in accordance with Subpart T, Part 385 of this chapter. The notification may include an answer setting forth factual or legal reasons why the proposed assessment order should not be issued, should be reduced in amount, or should otherwise be modified. If a person fails to file an answer within the 30-day time limit, all material facts stated in the Commission's notice will be deemed admitted.

(b) Any election to have the procedures of Rule 1509 apply may not be revoked after the 30-day election period in paragraph (a) of this section, without the consent of the Commission.

§ 385.1508 Commission administrative procedures (Rule 1508).

(a) If the respondent is not entitled to an election pursuant to Rule 1506(b)(3)(ii) or does not timely elect to have the procedures of Rule 1509 apply, the Commission will commence a proceeding in accordance with the provisions of Subpart E of this chapter.

(b) The Commission's Rules of Practice and Procedure in Part 385 of this chapter will apply, as appropriate, to any evidentiary proceeding to assess a civil penalty.

(c) An assessment order under this section shall include the administrative law judge's findings and the basis for such assessment.

§ 385.1509 District court procedures (Rule 1509).

(a) After receipt of the notification of election to apply the provisions of this section pursuant to Rule 1507, the Commission will promptly assess the penalty it deems appropriate, in accordance with Rule 1505.

(b) If the civil penalty is not paid within 60 calendar days after the assessment order is issued under paragraph (a) of this section, the General Counsel, unless otherwise directed by the Commission, will institute an action in the appropriate United States District Court for an order affirming the assessment of the civil penalty.

§ 385.1510 Modification of civil penalty (Rule 1510).

(a) The Commission may compromise, modify, or remit, with or without conditions, any civil penalty (with leave of court if necessary).

(b) In exercising its authority under paragraph (a) of this section, the Commission may consider the nature and seriousness of the violation, and the efforts of the licensee, exemptee, permittee, or one who should possess appropriate authority but does not, to remedy the violation in a timely manner.

(c) The Commission's authority to compromise, modify or remit a civil penalty may be exercised at any time prior to a

final decision by the United States Court of Appeals if Rule 1508 procedures are utilized, or prior to a final decision by the United States District Court if Rule 1509 procedures are utilized.

§ 385.1511 Collection of civil penalties (Rule 1511).

If any person fails to pay a civil penalty assessment, the Commission will seek to recover the amount of the penalty plus interest in any appropriate District Court of the United States. Interest will begin to accrue on the date the Commission issues a final order under Rule 1508 or the date on which the appropriate District Court enters final judgment in favor of the Commission under Rule 1509.

Procedures for the Assessment of)
Civil Penalties Under Section 31) Docket No. RM87-24-000
of the Federal Power Act)

(Issued August 17, 1988)

Dissenting Opinion of Commissioner Charles A. Trabandt

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Procedures for the Assessment of)
Civil Penalties Under Section 31) Docket No. RM87-24-000
of the Federal Power Act)

(Issued August 17, 1988)

Dissenting Opinion of Commissioner Charles A. Trabandt

I dissent strongly to the provisions of this Final Rule which apply civil penalties to those parties who are not licensees, permittees or exemptees under the Federal Power Act (FPA), as amended by the Electric Consumers Protection Act of 1986 (ECPA), and other features of the rule. It is unambiguously clear by any current standard of statutory construction that ECPA only grants the Commission the legal authority to apply the civil penalty provisions to parties who are licensees, permittees or exemptees. Furthermore, the majority's claim that Congress intended to apply those provisions not only to licensees, permittees or exemptees, but also to those who are required to have a license or exemption, is pure unadulterated fiction fashioned out of legislative history whole cloth.

1. Kamargo and apples vs. oranges: Commission exceeds FPA authority again by "banning oranges."

The U.S. Court of Appeals for the District of Columbia Circuit in Kamargo Corporation, et al. v. FERC, No. 87-1352, Decided August 9, 1988, may have characterized best the result here in its discussion of the Commission's similarly failed attempt in that case to fabricate non-existent legal authority under another provision of ECPA to prohibit certain new permits. The Court stated as follows, at pages 12 to 14 of the slip opinion.

> Of course, an agency is entitled to considerable deference in interpreting a statute it is authorized to administer, FEC v. Democratic Senatorial Campaign Comm., 454 U.S. 27, 31-32 (1981), and we therefore may not quarrel with its interpretation so long as it is reasonable. Chevron U.S.A. Inc. v. NRDC, 467 U.S. 837, 843-45 (1984). But in this case, we are hard put to see much merit in FERC's construction of ECPA. The

> statute does not even purport to deal with original licenses or preliminary permits....
>
> * * * *
>
> [N]either the language nor the legislative history permits the construction FERC adopts: that ECPA precludes granting preliminary permits to develop excess capacity at or near an existing project at a time close to relicensing. Since ECPA did not address this point either explicitly or implicitly, the Commission has, it seems to us, pushed beyond the outer limits of Chevron by making a policy choice supposedly supported by provisions of a statute that do not apply to the issue. If Congress, for example, banned only the importation of apples, an agency charged with carrying out this hypothetical statute would be unjustified if, based on the statute, it decided to ban the importation of oranges as well. (Emphasis added, footnote omitted).

At bottom, the Commission in this final rule (using the example of the Court) has decided to ban the importation of oranges (civil penalties for those who are not licensees, permittees, or exemptees) based on purported authority in ECPA, even though Congress only banned the importation of apples (with penalties only for those who are licensees, permittees or exemptees). Any objective review of the statute and the relevant legislative history would reach that conclusion, just as surely as apples are different from oranges. ECPA, as a matter of fact, did not address either expressly or implicitly civil penalties for those not licensees, permittees or exemptees, and the statute does not even purport to deal with the issue, to paraphrase the Kamargo court. Consequently, here, as in Kamargo, the Commission again has pushed beyond the outer limits of Chevron by making a policy choice supposedly supported by provisions of ECPA that clearly do not apply to the issue. And, as a result, any reviewing court would be hard put, as in Kamargo, to see much merit here in FERC's construction of ECPA. Or, put another way, apples are no more oranges in this case than they were in Kamargo, and the Commission has no legal authority under ECPA to apply civil penalties to parties who are not licensees, permittees or exemptees. It is very unfortunate, if not more disturbing, that the majority in this case has chosen to ignore completely the Court's analysis in Kamargo and proceed anyway to attempt blatantly again to seize authority not delegated by

Congress -- this time to impose civil penalties of up to $10,000 per violation per day on parties beyond the scope of the statute.

2. The statutory scheme: the plain meaning is obvious.

We should begin our analysis with a review of the statutory language at issue. Section 12 of ECPA amended the Federal Power Act by adding a new "Section 31. Enforcement," at the end of the Act. Section 31 has the following provision in subsection (c).

> (C) CIVIL PENALTY. -- Any licensee, permittee, or exemptee who violates or fails or refuses to comply with any rule or regulation under this part, any term, or condition of a license, permit or exemption under this part, or any order issued under subsection (a) shall be subject to a civil penalty in an amount not to exceed $10,000 for each day that such violation or failure or refusal continues. Such penalty shall be assessed by the Commission after notice and opportunity for public hearing. In determining the amount of a proposed penalty, the Commission shall take into consideration the nature and seriousness of the violation, failure, or refusal and the efforts of the licensee to remedy the violation, failure, or refusal in a timely manner. No civil penalty shall be assessed where revocation (of a license, permit or exemption) is ordered. (Emphasis added; parenthetical added to last sentence.)

Section 18 of ECPA, entitled "Effective Date," provides in pertinent part that:

> The amendments made by sections 6 and 12 of this Act shall apply to licenses, permits, and exemptions without regard to when issued. (Emphasis added).

New subsection 31(c) is quite clear and unambiguous as to its scope of authority. A "licensee, permittee or exemptee ... shall be subject to a civil penalty...". And, "the Commission shall take into consideration ... the efforts of the licensee to remedy the violation, failure or refusal in a timely manner." And, further, "[n]o civil penalty shall be assessed where revocation [of a license, permit or exemption] is ordered." The provision contains four sentences and three of them expressly refer to licensees, permittees, exemptees or the revocation of their respective licenses, permits or exemptions. Section 18 of ECPA expressly refers to the application of Section 12 to all licenses, permits and exemptions. There is no express mention nor implied reference to any other parties being subject to civil penalties on the face of subsection 31(c) of the FPA or Section 18 of ECPA. The plain meaning of the statute could not be more plain in this case: to wit, civil penalties apply only to licensees, permittees and exemptees (the apples, as it were, in the Kamargo opinion).

It is well settled under current standards of statutory construction that the plain meaning of a statute must control its interpretation in the absence of an ambiguity or unreasonable result, even where the Congressional Conference Report expressly calls for a contrary result from the statutory provision. Here the Conference Report, other than a passing reiteration of the Section 18 Effective Date for Section 12, is silent on the civil penalty provision in subsection 31(c).

3. Statutory construction: the plain meaning controls.

The applicable case law on the central statutory construction issue in this case is clear and unambiguous. The U.S. Court of Appeals for the District of Columbia Circuit has ruled repeatedly on this issue in support of the plain meaning doctrine. "We find no mandate in logic or in case law for reliance on legislative history to reach a result contrary to the plain meaning of a statute, particularly where that plain meaning is in no way unreasonable." United Air Lines, Inc. v. CAB, 569 F.2d 640, 647 (D.C. Cir. 1977), (emphasis in the original). The Supreme Court has ruled that a court interpreting a statute is bound by the "literal or usual meaning of its words" unless this would lead to "'absurd results... or would thwart the obvious purpose of the statute...". Trans Alaska Pipeline Rate Cases, 436 U.S. 631, 643 (1978) quoting Commissioner of Internal Revenue v. Brown, 380 U.S. 563, 571 (1965).

The District of Columbia Circuit Court of Appeals has been confronted with arguably analogous situations in several recent cases. In National Small Shipments Traffic Conference Inc. v. CAB, 618 F.2d 819 (D.C. Cir. 1980), the Court sustained the plain meaning of the statute, explaining that "[t]his case does not present an instance in which a literal interpretation of the language leads to an absurd result or conflicts with the obvious purpose of the Act." In that case, the CAB had acted in a manner that was directly contrary to an express statement in the

Conference Report that the Managers did not contemplate that the Board would take such action under the new Public Law (exempting certain air carriers from the requirement of filing tariffs). The Court quoted the statement above from the United Air Lines opinion and went on to note "that interest groups who fail to persuade a majority of the Congress to accept particular statutory language often are able to have inserted in the legislative history of the statute statements favorable to their position, in the hope that they can persuade a court to construe the statutory language absent clear contrary evidence of legislative intent."

The Court analyzed further that there the plain language of the statute should control because there was no "clear contrary evidence of legislative intent," citing to National Railroad Passenger Corp. v. National Association of Railroad Passengers, 414 U.S. 452 (1974), (emphasis added). The Court concluded that the statement in the Conference Report that the Managers did not contemplate such action, was "not the type of clear indication of legislative intent that can justify a decision to disregard the plain language of a statute," and "[w]e must assume that if Congress had intended" that result "it would have said so in unmistakable language," i.e. in the statute itself, 618 F.2d 819, 828 (footnote omitted).

The same Court more recently in Eagle-Picher Industries v. United States E.P.A., 759 F.2d 922 (D.C. Cir. 1985) was confronted with a statutory provision which appeared to have been drafted inconsistent with an express statement in the Senate Report as to the intended definition of a "hazardous substance". The Court there made several comments which are relevant to the instant case. In a footnote to the applicable discussion, the Court noted that although the definition originated in the Senate, did not come from the Conference Report "and thus should be accorded more weight than an ordinary Senate report... [sic] [n]evertheless, it is section 101(14), not the report of one body, that was passed by the entire Congress." The Court emphasized that the statute could have been drafted to achieve the result stated in the Senate Report "[i]f a rational draftsman had indeed intended that" result, but the statute there did not achieve that result. The Court stated:

> We thus are faced with a conflict between the language and structure of the statute on the one hand, and one portion of its legislative history on the other. It is clear to us that when such a conflict exists, the statute must control. It was, after all,

> section 101(14) that was enacted by Congress and became law.

759 F.2d 922, 929.

Also applicable to this case is Montgomery Charter Service Inc. v. Washington Metropolitan Area Transit Commission, 325 F.2d 230, 233 (D.C. Cir 1963), where the Court said "'[i]t is elementary in the law of statutory construction that, absent ambiguity or unreasonable result, the literal language of a statute controls and resort to the legislative history is not only unnecessary but improper.'" (quoting Elm City Broadcasting Corp. v. United States, 235 F.2d 811, 816 (D.C. Cir. 1956) (emphasis added). See also Sutherland, Statutes and Statutory Construction § 46.01 (4th Ed.).

4. Final Rule: fictional Congressional intent drawn from fabricated legislative history.

The majority attempts vainly to fabricate a different analytical result by highly selective and misleading citations to various portions of the legislative history of the civil penalties provision in the bill passed by the House of Representatives. At the outset, it must be noted that the House-passed civil penalties provision was modified in the House-Senate Conference in a manner that re-emphasized the express limitation to licensees, permittees and exemptees. Nevertheless, the Final Rule, in discussion beginning at 5 of the Slip Opinion, attempts to avoid that result by making much of a wholly unrelated discussion in the House Committee Report about "(t)he very first concern highlighted by the House Report was the problem of unlicensed hydroelectric projects" (emphasis added) and a quote of a House witness on that subject. The discussion, at page 6, notes that "[t]he Committee further emphasized that it expected 'FERC to locate projects that are being operated without legal authority and to enforce the law,'" but fails to indicate that the quote was from another section of the report.

The discussion then emphasizes that the House report called for use of civil penalties for violations of orders and matters referenced in subsection (a). The discussion conveniently fails to explain that subsection (a) calls for monitoring and investigation of compliance with each license, permit and exemption and to issue orders to require compliance with the terms and conditions of such licenses, permits and exemptions. Furthermore, the discussion ignores completely subsection (b), which provides for revocation of a license or exemption, where

any licensee or permittee is found by the Commission inter alia to have knowingly violated an order under subsection (a) requiring compliance with the terms and conditions of the license or exemption. See subsections 31(a) and (b) of ECPA for the full text of these provisions.

Thus, the statutory scheme of Section 31 is quite clear beginning with (1) subsection (a) monitoring, investigation and compliance orders; (2) subsection (b) revocation orders; and (3) subsection (c) civil penalties -- all for enforcement of licenses, permits and exemptions. The Final Rule, at page 6, ignores all of this related statutory language and accurate legislative history in grandly pronouncing that Congress gave the Commission civil penalty authority to address its concern about unlicensed operations. A fitting retort could be that the partial testimony of one Congressional witness and a couple of spurious citations do not create a brand new civil penalty authority for the Commission. Of course, the Congress is well aware that the Commission under other provisions of the FPA has authority to make and enforce jurisdictional determinations for unlicensed operations in any event, without resort to the use of civil penalties under subsection (c). To argue that the cited portions of the House legislative history require application of civil penalties to unlicensed operations under these facts is completely farcical and unpersuasive.

The discussion, thus having failed miserably as a matter of law, turns next to the policy argument that having civil penalties only for licensees, permittees and exemptees "could lead to the result of encouraging operators to violate the FPA and operate without a license when they are required to have one." And so, the argument runs, "Congress did not intend to favor those who do not comply with the law over those who do." Necessarily, then, civil penalties have to apply to unlicensed operations to prevent (1) favoritism to those who must not have complied with the law (or they seemingly would be licensed) and (2) encouragement of those unlicensed operators to continue to violate the FPA. The order also rebuts opposing public comments on the grounds that they have not been able to cite any specific legislative history to support their literal reading of the statute and its plain meaning. That is a nifty shifting of the burden of analytically showing the plain meaning is unacceptable, which would mean more generally that the plain meaning of a statute only controlled when there was express legislative history to support it. Such a result would turn upside down the entire current body of judicial opinion on statutory construction discussed above.

Finally, as the statutory construction *coup de grace*, the order reaches deep into legal annals to pull out *U.S. v. American Trucking Associations Inc. et al.*, 310 U.S. 534, 543 (1940) for the proposition that the Commission is not compelled by the literal reading of the Act to reach a result contrary to the aforementioned policy argument, because that would be plainly at variance with the policy of the legislation as a whole - as established by the thoroughly discredited legislative history analysis. This effort to pull a precedential "rabbit out of a hat" is another nifty analytical trick. It is no secret, however, that there have been a series of Supreme Court cases in the 48 years since *American Trucking*, which have sharpened the focus on the plain meaning of the statute, as discussed above.

The last gasp analytically, as it were, appears in Footnote 16, at page 8 of the Slip Opinion, where the order cites to *Commodity Future Trading Commission v. Savage*, 611 F.2nd 270, 282 (9th Cir. 1980). The order argues that there was a similar situation under an interpretation of the term "registered under this Act" in the Commodity Exchange Act, wherein the term was held to include those not registered, but engaged in activities requiring registration. The Court found that the broader interpretation was necessary to effectuate Congressional intent, while the narrower interpretation would frustrate a principal purpose of the Act. The discussion fails to describe the factual circumstances surrounding the Court opinion, particularly the fact that Congress amended the law to codify the broader interpretation in the statute at the time of the judicial proceedings. Also, that Act in several important ways is not analogous to the structure of the FPA, its licensing provisions, and its enforcement provisions. Thus, the asserted similarity is of little analytical significance or value in this case and is not persuasive for the proposition that, as arguably occurred in *Savage*, the terms, "licensees, permittees and exemptees" really includes all other parties who are not licensees, permittees and exemptees. That result in *Savage*, as a practical matter, was the product of Congressional amendment of the law, and not a new theory of statutory construction or analysis.

5. The real legislative history: express support for the plain meaning and a report to the House Committee on the *alleged* unlicensed project problem.

The highly selective and misleading nature of the discussion about the House legislative history becomes apparent upon more careful review of the House and Senate legislative history for Section 31. Section 5 of the House legislation included new "Section 31. ENFORCEMENT." The section included: (1) subsection (a) on monitoring and investigation of compliance with licenses, permits and exemptions and issuance of orders requiring such compliance; (2) subsection (b) on revocation of licenses, permits and exemptions for knowing violators of orders issued under subsection (a); and (3) subsection (c) on civil penalties for licensees, permittees and exemptees. Not surprisingly, the House report explains that, "Section 5 adds new Section 31 to the Federal Power Act that provides the Commission with additional enforcement authority *to ensure that license, exemption or permit conditions are met*." (Emphasis added). The report continues, "the amendments are not intended to reduce, restrict, or limit the authority of the Commission under other sections of the Act ... [i]t supplements that authority, including Section 309 of the Federal Power Act." Thus, the much vaunted House Committee report on its face confirms that Section 31 Enforcement, including civil penalty authority, is for the *sole* purpose of supplementing existing authority to ensure that license, exemption or permit conditions are met. Where is the clear legislative intent that civil penalties also must or should apply to unlicensed hydroelectric operations? It's quite simply not there, because it obviously does not exist as a matter of fact.

The House Committee Report does quote from the witness in the hearing, Mr. Horn. Strikingly, however, the quotation in this order is only partial and off the main point of the full quotation in the report. The full quotation focuses directly on the need perceived by the witness for FERC to "aggressively monitor *compliance* with the *terms and conditions* attached to a *license or exemption*." (Emphasis added). His key recommendation, emphasized in italics by the Committee, was that, "*therefore, the FERC should be directed by Congress to upgrade its current monitoring and compliance program, in cooperation with the states, to ensure full compliance with the conditions established in a license or an exemption*."

The Committee Report in the next paragraph makes absolutely clear that "subsection (a) requires that FERC monitor and investigate compliance, not just with regard to large projects or those under construction [but] [a]ll projects, including those exempted from licensing, must be watched to ensure compliance (i.e. with terms and conditions of licenses, permits and exemptions) ... The subsection authorizes FERC to issue, after notice and an opportunity for public hearing, orders, subject to judicial review, *to require compliance with license, permit and exemption terms and conditions*." (Emphasis added). "Subsection (c) provides a new enforcement tool in the form of civil penalties for failure or refusal to comply with a subsection (a) order or any matter referenced in subsection (a) or for violations of such matter or orders" (i.e. FERC actions requiring compliance with license, permit and exemption terms and conditions).

There is not one reference to unlicensed hydroelectric operations, because that clearly was not the intent of the House Committee. In fact, the intent of the House Committee with regard to unlicensed hydroelectric operations was made abundantly clear in two sentences found in the middle of the paragraph discussing subsection (a). The Committee stated its intent as follows, "the Committee *also* expects FERC to locate projects that are being operated without legal authority [i.e. licensing or exemption under the FPA] and to enforce the law [which would be by making jurisdictional determinations under existing authority] [and] [t]he Committee expects FERC to *report* to the Committee within six months about this *alleged problem*." (Emphasis added.) The Committee's admonition *also* to locate projects operated without legal authority and enforce the law and the requirement to make a report about the *alleged problem* are a far, far cry from the obviously fabricated Congressional intent in the order based on the highly selective and misleading citations and quotation from the Committee Report. The Committee categorically did *not* grant authority for civil penalties applicable to unlicensed hydro projects. All the Committee did was to note in passing the allegations in witness Horn's testimony about unlicensed operations, to admonish FERC to address the issue, and, in the penultimate directive to the Commission, *to make a report to the Committee in six months on the "alleged problem*." To attempt to bootstrap that relative crumb of Congressional interest all the way into a demonstrated, affirmative Congressional intent to apply civil penalties to unlicensed hydroelectric projects is akin to fabricating a new NASA Space Shuttle out of a paper airplane -- it just won't fly. Or, as they reportedly say in Texas, that dog just don't hunt.

The companion Senate provision was contained in Section 12 of the Senate bill, which would add new subsections 26(b) and 26(c) to the FPA. Those subsections would provide the Commission with authority to revoke for significant violation of its terms any permit, license or exemption and also to issue orders to ensure compliance, with enforcement of orders by proceedings in

Federal district courts. The Senate Committee Report, as did the House Report, makes clear that the new authority is exclusively for the purpose of issuing orders requiring compliance and revoking a permit, exemption or license for a significant violation of its terms. There is no suggestion of any kind that the new authority is intended by the Committee to have any application to parties other than licensees, permittees or exemptees. The exclusive focus of the discussion is on ensuring compliance with the terms and conditions of licenses, permits and exemptions, and the Committee emphasized that it "would expect FERC to give the licensees, exemptee, or permittee a reasonable time to remedy any violations which may occur."

And, of course, the Conference Report was silent on the substance of the new Section 31. ENFORCEMENT which melded together the companion provisions of the House and Senate bills. The respective Floor Statements of Chairman Dingell in the House of Representatives and Chairman McClure in the Senate with regard to the Conference Report only reiterated the positions of each body, without a single reference of any kind to the "alleged problem" of unlicensed hydroelectric operations. There can be absolutely no doubt, therefore, that the sole and exclusive focus of the Congressional intent in Section 31 was compliance by licensees, permittees and exemptees with the terms and conditions of their licenses, permits and exemptions, and the necessary enforcement authority for the Commission to ensure that compliance occurs -- and nothing more.

6. The NOPR public comments: civil penalties as a cudgel to coerce unlicensed projects *in terrorem* to accept FERC jurisdiction.

The public comments filed in response to the Notice of Proposed Rulemaking (NOPR) in this docket add great weight to these concerns. For example, the Edison Electric Institute points out, at page 4, that there could be "serious negative consequences" from the rule's application of civil penalties to unlicensed operators. The jurisdictional question is often complex and difficult with tough factual issues. Thus, the effect of imposing civil penalties and imposing potential liability back to the date of enactment of ECPA would raise the stakes immensely in a jurisdictional dispute at the rate of $10,000 per day over several years. As EEI points out, "[t]his will almost assuredly have a chilling effect on the owner's willingness to pursue his [legal] rights ... [because], in effect, the Commission could use the civil penalty provisions as a cudgel to coerce project owners into the Commission's Section

23 jurisdictional fold despite reasonable grounds to contest such jurisdiction." And, I would note, that is just exactly what the objective of the Commission is in this Final Rule -- to seize unlawfully the cudgel to coerce project owners to accept jurisdictional status. Interestingly, EEI also notes in footnote 4 that the citation in the NOPR from the legislative history in the House Committee Report has been misconstrued, as discussed above. There is no question, therefore, that the Commission has been notified of that fatal flaw, which is perpetuated in the Final Rule.

The National Hydropower Association comment bluntly stated, "the statute means what it says" and "the Commission's attempt to amend the statute to include, in the words of the notice, a person who engages in conduct requiring a license or exemption but fails to obtain one is unlawful and inappropriate." NHA, at pages 5 and 6, disposes effectively with the woefully misbegotten claim of Congressional intent in the NOPR supporting application of civil penalties to unlicensed operators. NHA continues importantly to address the perceived rationale for such an effort, at page 7, as follows.

> [T]he Commission's claim to civil penalty authority over the owners/operators of unlicensed projects would give the Commission an unwarranted, coercive weapon with which to threaten such project owners who might otherwise contest the Commission's jurisdiction in good faith. It is clear, NHA believes, that the Commission has recently embarked on a program to expand hither to accepted limits of its Part I jurisdiction. Confronted with the possibility of as much as $10,000 per day in payments to the federal government for continued operation, an owner may decide to submit to FERC jurisdiction, even with substantial doubt as to the legitimacy of the Commission's assertion of jurisdiction. The coercive effect, in such a case, violates due process considerations to the extent that the threat of civil penalties would preclude project owner's contesting FERC jurisdiction, by appeal or otherwise.

I believe that NHA, as did EEI, has identified correctly the Commission management's objective in this Final Rule. I also would note that the rule provides for a civil penalty of $10,000 per day per violation, which could be even more coercive in its practical effect. I also agree with NHA's belief about the Commission's effort to expand the limits of its jurisdiction, as

set forth in my separate opinions in the Fairfax County Water Authority case and the Delegation Rule, discussed below.

Niagara Mohawk Power Corporation, at page 6, opposes the NOPR proposal to include unlicensed hydro operators within the scope of civil penalties. Niagara Mohawk cites to the "creative bit of statutory construction" in the notice where, as in the Final Rule, the House report's suggestion that FERC "enforce the law" with regard to projects operated without legal authority is bootstrapped into expansion of the civil penalty coverage of the statute. Niagara Mohawk points out that the "plain meaning of the statute limits its application to licensees, permittees and exemptees" and "[a] passing reference in a Committee Report ... cannot expand the coverage of the statute." Niagara Mohawk also notes that the NOPR "seeks to justify this leap by claiming that a Congressional intent to omit those who have 'ignored licensing requirements' would be 'irrational' [but] such an omission would be less irrational than the approach taken by the Notice...". Niagara Mohawk explains that the NOPR could result in the imposition of "massive civil penalties," with a penalty exceeding $3 million already accrued against an unlicensed party by the time the comments were filed in October 1987 - and another $3 million in the intervening ten months since then. Niagara Mohawk continues, "Congress could not have meant the Commission to subject to civil penalties persons who in good faith question jurisdiction over them, and the language of the statute itself bears out this conclusion."

Niagara Mohawk importantly then addresses the statutory scheme of the FPA, beginning at page 7, footnotes omitted.

> An amendment to an existing statute must be read in the context of the statute. The Notice takes the remarkable position, however, that the enactment of Section 31 silently swept away the half century of history represented by such provisions as Section 4(g) of the Act, which authorizes FERC to investigate unlicensed projects and to issue "such order(s) as it may find appropriate, expedient, and in the public interest;" Section 314, which authorizes FERC to seek an injunction against any violation of the Act or FERC rules, regulations or orders; and Section 316, which establishes criminal-penalties for violations of the Act. These provisions amply equip the Commission to compel those who should be licensed to secure licenses, while permitting respondents to assert their rights free from the in terrorem effect that the proposed rule

> rule would impart to Section 31. The position of the Notice that civil penalties may be imposed on those who should be licensed, but are not, is at odds with the face of the statute, the limited Congressional intent that can be discerned and the overall enforcement scheme of the Act.

Niagara Mohawk has covered well the salient arguments in opposition to the position adopted in the Final Rule. It is noteworthy that the Final Rule did not directly address these arguments, other than the reiteration of the legislative history and the passing citation in footnote 10, at page 4.

Orange and Rockland joined the chorus of opposition to the NOPR's expansion of the statutory scope to include unlicensed operators. In an expansive and well-reasoned review of recent court opinions on statutory construction, (rather than the Final Rule's reliance on the 1940 American Trucking decision) Orange and Rockland proceeds to dismember analytically the NOPRs' flimsy attempt to invoke statutory construction principles to overturn the plain meaning of the statute. Orange and Rockland establishes conclusively that Congress did not intend to subject parties other than licensees, permittees or exemptees to civil penalties "and the Commission may not substitute its judgment for that of Congress with respect to the scope of the statute's enforcement provisions." Orange and Rockland points out that Congress expressly included parties in section 23(b) who should have licenses. So it is clear that "Congress clearly knew how to and did in fact subject persons who 'should have' licenses to the Commission's jurisdiction when it so desired, [but] it did not choose to do so with respect to the imposition of civil penalties, and the Commission may not appropriate to itself such authority." (Citing also to another illustration in Sec. 23(b), in footnote 4, at page 5).

Orange and Rockland next persuasively dismisses the House Committee's general statement of "concern" about unlicensed projects as entirely inadequate to justify regulations which exceed the statutory mandate, noting that such concern was not addressed by Congress otherwise nor even discussed in the Conference Report. (As discussed separately, the House Committee, in fact, called for a report from the Commission on the "alleged problem" in six months.) Orange and Rockland correctly opines that FERC is not authorized to regulate on the basis of what Congress "should have done" or "meant to do" but rather is limited to the mandate of Congress expressed in the statute itself.

Orange and Rockland next analyzes the impact of the Court of Appeals decision in American Mining Congress v. EPA 824 F.2d 1177 (D.C. Cir. 1987) on the NOPR, because it involved a similar attempt by EPA to expand the coverage of its statutory jurisdiction over certain categories of solid waste. Orange and Rockland asserts persuasively that application of the holding and the rationale of American Mining Congress to the facts here, establishes that FERC cannot under any circumstances apply civil penalties to unlicensed projects and "the holding of American Mining Congress incontrovertibly supports the proposition that the Commission will impermissibly exceed the scope of its statutory authority if it attempts to promulgate § 385.1501(b) as currently proposed," which the Final Rule of course does.

Orange and Rockland buttresses strongly its argument by analysis of the Supreme Court decision in Board of Governors v. Dimension Financial Corporation, 474 U.S. 361, 106 S. Ct. 681 (1986), where "the Supreme Court cautioned that the 'plain purpose' of legislation should not be invoked at the expense of the actual terms of the statute," Orange and Rockland concludes that, "the Court's admonition applies with particular force to the Commission's attempt to extend its jurisdiction despite the clear limitatiors set forth in the statute itself (and) [a]ccordingly the Commission is not authorized to promulgate § 385.1502(b) as proposed (which it now has) unless and until Congress explicitly confers on the agency the authority to enforce the statute's provisions against persons who 'should be' licensees or exemptees." I could not agree more with that analysis and that conclusion.

The public comments discussed above provide a powerful and persuasive -- and for the Commission, extremely embarrassing -- rebuttal of the arguments in the NOPR, which have been reiterated with nothing new or more in the Final Rule. The original public comments for all practical purposes have the analytical effect of preemptively negating the hollow response in the Final Rule. Those comments also add great weight to my modest analysis of the legislative history and complement very well the analysis of the Kamargo court. Taken together in the aggregate, these separate analytical pieces build an absolutely overwhelming case for the fatally flawed nature of the Final Rule adopted here. There can not be a shadow of a doubt here that the Commission is attempting again to ban the importation of oranges, in the words of the Kamargo court's illustration.

7. SCPSA and harmony vs. false note: the Commission's false note exceeding its FPA authority again.

I should also note in passing the recent decision of the U.S. Court of Appeals for the District of Columbia Circuit in South Carolina Public Service Authority v. FERC, No. 871146, Decided July 5, 1988 (SCPSA). The Commission in that case attempted to use general conditioning power under the FPA to require that the State agree to provide compensation for all foreseeable property damage caused by any seismically induced dam failure, as an alternative to requiring the state to rebuild the impoundment structure found to be susceptible potentially to earthquake induced failure. The Court, "agreed with the State that the licensing authority granted to the Commission under the Act does not include the power to displace existing State tort law with its own rules of liability for damages caused by licensees," even under the unique facts of the SCPSA case. (Slip opinion, at 2).

The Court noted that, Acting Chairman Sousa dissented on the ground that "a license condition requiring SCPSA to compensate property owners for damages caused by dam failure [is] a usurpation of authority left to the States by Congress, beyond the Commission's authority." (Slip opinion, at 5). The Court effectively agreed and stated, "[t]hus there is no need to believe that Congress intended its words to have anything but their 'obvious meaning' in order for the Act to work in conformance with its declared purposes [and] [w]here means and ends sing in such harmony, the Commission's false note sounds false indeed." The Court concluded that, "when examined in light of traditional principles of statutory construction, the Federal Power Act reveals that Congress did not intend to authorize the Commission to displace State tort laws applicable to licensees. (Slip opinion, at 12).

Later, under the heading "III. Conclusion," the Court summarized as follows:

> In sum, the clear import of the statute is at one with its legislative history: while the Commission may require its licensees to abide by rules and regulations promoting safety, the liability of those licenses for damages caused by their projects is a matter left by Congress to state law. The Commission therefore exceeded its authority under the Act when it attempted to replace the tort law of South Carolina with its own

> principle of compensation, which it considered to be the more "fair and equitable." (Slip opinion, at page 16; footnote omitted).

I believe SCPSA and Kamargo are both relevant to this order, because they point out serious flaws in the statutory construction of the Federal Power Act by the Commission in recent cases. In both SCPSA and Kamargo, the Court of Appeals for the District of Columbia Circuit has found that the Commission exceeded its authority under the FPA, respectively, by imposing its own rules of liability displacing state tort law and by precluding preliminary permits authorized by the statute. These cases, coupled now with this order, point out there seems to be a developing pattern of the Commission "singing a false note" as to the relevant Congressional intent, as in SCPSA, to claim authority not found in the FPA by the courts to carry out its own self-initiated policy objectives. That is a practice which, beginning with this case, must be halted by the Commission. Now is the time to bring to an immediate halt the Commission's recurring efforts, seemingly at any time and in any case, to exceed its statutory authority under the FPA, whenever the Commission deems it appropriate.

8. Final Rule rationale: FERC's institutional obsession with unlicensed hydroelectric operations.

ECPA, therefore, does not grant the Commission any authority to apply civil penalties to parties other than licensees, permittees and exemptees. Here, as in Kamargo, the majority has pushed beyond the outer limits of Chevron by making a policy decision supposedly supported by provisions of ECPA that do not apply to the issue. And, there really can be no reasonable doubt about that conclusion, notwithstanding the arguments to the contrary in the Final Rule. Why then does the majority here, as did the majority in Kamargo, legally attempt to turn apples into oranges (so to speak) and find such authority? The answer is plain and simple, but probably not quite obvious. The Commission and its management are institutionally obsessed with the issue of unlicensed hydroelectric project operations. The discussion in the Final Rule reviewed above focused on that issue.

The Commission orders in Fairfax County Water Authority, 43 FERC 61,062 (1988) and the Regulations Delegating Authority, Order No. 492, FERC Statutes and Regulations (April 5, 1988) are examples of that obsession, as I documented at length in my separate opinions in those cases. The saga of the unlicensed hydro program set forth in those two orders is a hallmark of legally unauthorized activity by the Commission staff at the direction of the Commission management. Briefly, the Commission staff was directed in early 1987, without any knowledge of the Full Commission, to begin an exhaustive nationwide investigative program of existing, but Federally unlicensed, hydroelectric projects across the country to determine if they were jurisdictional. The Full Commission only became aware of the program this spring, when the Fairfax County Water Authority appealed illegal staff action to require licensing of its project. The Commission found out then that the Commission staff had already investigated about 100 projects in various parts of the country and without any legal authority issued 38 unauthorized jurisdictional determinations, of which the Fairfax County Water Authority was one.

Budget documents submitted to the Office of Management and Budget by Commission management document that the Commission staff has concluded that there are at least 500 projects that require jurisdictional determinations nationwide. Current plans call for the Commission staff to assert new Federal jurisdiction over 92 additional non-Federal projects in Fiscal Year 1989, beginning October 1, 1988, leading to a six-fold increase in the number of applications for constructed projects between Fiscal Year 1987 and Fiscal Year 1989. Outside contractors will be funded to assist the staff in conducting research and investigation and making jurisdictional findings as part of an overall increase of at least five percent in the current workload.

The staff at the March 30, 1988, Commission meeting conceded that there had not been a single instance where a project under investigation constituted an immediate threat to human life, health, property or the environment, which required emergency action without the knowledge or prior action of the Commission, otherwise required by the then-effective Commission regulations. To date, there has not been any persuasive justification for the initiation of this program, particularly without the knowledge of the Full Commission, let alone the concerted efforts to prevent the Full Commission from finding out about it. The program, however, will divert substantial staff and budget resources from high priority activity in the areas of hydroelectric relicensing and environmental assessment to support licensing, again without any systematic analysis of the costs and benefits of the program. The program was initiated by Commission management fiat with no underlying justification and that situation continues today.

Correspondence from the Commission to the Chairman of the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce in response to inquiries resulting from the Fairfax County Water Authority case have attempted to paint a more moderate picture of this program. The correspondence indicates that the rationale for the program is dam safety of projects which now should be licensed under current case law and further that the scope of the program is being reduced to a lower number of projects. Nevertheless, the correspondence acknowledges that it is anticipated that 70% of the reviews will lead to jurisdictional determinations requiring licensing of existing projects. Many of these older projects were legally constructed when FPA jurisdiction was more limited in scope, but now arguably may be subject to jurisdiction because of later court rulings or certain post-1935 construction activities.

Notwithstanding protestations to the contrary in the correspondence, it is clear on the basis of the sorry record of this program, that the underlying objective is largely, if not solely, jurisdictional in nature. There has not been any systematic and objective analysis of either safety or environmental problems, in the context of the 1986 House Committee report's identification of an alleged problem. At the very heart of this program remains nothing more than the fiat of Commission management unsupported by analysis or fact. That is the context in which the unauthorized application of civil penalties to unlicensed projects in this Final Rule must be considered, as urged by the several public comments filed in this docket. The past history of the unlicensed hydroelectric program lends strong credence to the concerns of the commenters about the intended coercive use of the civil penalty authority as a cudgel to force unlicensed operators in terrorem to accept FERC jurisdiction without good faith challenge or protest.

The Commission here is desperately seeking a legitimized authority to impose civil penalties on unlicensed hydroelectric project operators and the desperation of the effort demonstrates that this is not an academic exercise. In fact, the Commission staff apparently plans to initiate civil penalty proceedings against a significant number of unlicensed project operators as soon as this order has issued. Originally, in that same spirit, the draft Final Rule also would have delegated civil penalty authority to the staff, but that was removed at my request. In my opinion, it would be a fundamental miscarriage of justice for the Commission to assess civil penalties against unlicensed operators under the provisions of the Final Rule. The situation with jurisdictional determinations already has reached unacceptable proportions and application now of the civil penalty provisions would only complicate and worsen the situation for no good public policy purpose and without any statutory authority from Congress.

Why should this Commissioner, or others for that matter, really be concerned about the unauthorized application of civil penalties to unlicensed hydroelectric operations in any event? The answer is straightforward and very simple. I believe strongly that an essential factor in the consideration of this Final Rule is that the Commission did not have civil penalty authority under the Federal Power Act prior to enactment of ECPA. The courts held in a succession of cases that the Federal Power Act did not grant the Commission any other civil penalty authority. Thus, Congress in ECPA granted the Commission civil penalty authority for the first time, but subject to expressly limited scope (e.g. licensees, permittees, and exemptees) and with expressly required due process administrative safeguards for the processing of alleged violations.

The NOPR on the face of the proposed regulations and the associated preamble discussion virtually ignored both the expressly limited scope and the due process administrative safeguards mandated by Congress in ECPA. In effect, the Commission figuratively proposed to take the new civil penalty authority from ECPA and promptly discard the scope limitations and due process procedures, as if the Federal Power Act now contained unlimited and largely unconstrained authority to impose civil penalties at the institutional whim of the Commission. As discussed separately, the plain meaning of the statute and the legislative history will not support that result. Clearly, the Commission has only that express authority granted in ECPA, and it can not, as proposed in the NOPR, blithely appropriate unto itself the far broader authority. The Final Rule, with certain modest procedural improvements, still suffers from the fundamental and legally fatal flaw that the Commission effectively is misappropriating such broader authority unto itself, which it cannot do here any more than it could in Kamargo.

Congress did not affirmatively intend that unlicensed hydroelectric operators would be subject to civil penalties of up to $10,000 per day per violation. And, unless and until Congress by statute expressly enacts such civil penalty authority for the Commission, it is patently unlawful for the Commission to assess one dollar of civil penalty against any unlicensed hydroelectric

operator. Furthermore, it is obvious that the Commission management has every current intention upon issuance of this Final Rule of almost immediately invoking the new regulations to assess civil penalties against a number of existing unlicensed operators, as part of the institutional crusade described above. Commission staff has acknowledged that fact publically in the Commission meeting of June 29, 1988, and privately since that meeting. In effect, the issuance of this fatally flawed rule will lead directly and immediately to the institution of civil penalty proceedings and the assessment thereafter of civil penalties against parties clearly not within the scope of Section 31. That result should offend every interested party committed to the rule of law in our democratic system, as it surely does this Commissioner.

9. Final Rule: a stay is justified and necessary.

That result also must be reversed as soon as possible to avoid very serious and potentially irreparable harm to unlicensed hydroelectric operators across the nation, who will be subject to the obviously intended coercive effect of the cudgel of illegal application of the civil penalties provision, in the context of the unlicensed hydroelectric program. Under these circumstances, such parties and the commenters would have grounds for seeking a stay of the Final Rule, pending further consideration of this issue by the Commission on rehearing and pending judicial review of the clearly illegal provision. The public comments have made abundantly and unambiguously clear the immediate threat the Final Rule constitutes in terms of due process rights and potential coercion by Commission staff in jurisdictional dispute cases, as well as the enormous financial burden represented by such civil penalties. There clearly is the present danger of irreparable harm as a result. And, there is little doubt on the basis of this analysis that any petitioner should prevail on the merits of a challenge to the legality of the Final Rule. And, further, there certainly would be no prospect of any harm to others if a stay was granted. Finally, under these facts, such a stay would be demonstrated as being in the public interest, thus satisfying the three pronged tests for a stay articulated in Virginia Petroleum Jobbers v. FPC, 259 F.2d 921, 925 (D.C. Cir 1958).

The Final Rule, at page 13 of the Slip Opinion under G. Coercion, responds briefly to the concern expressed by EEI (as well as several others, as discussed elsewhere) that the Commission could use civil penalties to coerce project owners into the Commission's jurisdiction and that the effect of imposing liability on those who operate unlicensed projects raises the stakes in any contest over jurisdiction." Astonishingly, the order acknowledges that fact with amazing candor, as follows:

> Civil penalties do give the Commission greater enforcement authority than before, and the Commission believes that this authority will encourage greater compliance. This is what Congress intended. Because the stakes are now higher, the Commission believes persons will be more inclined to request a determination from the Commission as to whether a project is jurisdictional prior to commencing construction or operation of a hydropower project. (Emphasis added).

Several comments are in order with regard to this response. First, this dissenting opinion has established that Congress, in fact, did not by any stretch of the imagination intend the use of civil penalties for unlicensed projects in the first instance, let alone the use of such penalties as a cudgel to raise the stakes higher in order to coerce unlicensed hydroelectric operators in terrorem to accept FPA jurisdiction, rather than to contest it in good faith. For all practical purposes, the majority in the quoted passage has laid its cards on the table and exposed the intended use of civil penalties as a coercive tool or cudgel, claiming that's what Congress intended. Also, of course, the primary focus of the unlicensed hydroelectric program is existing projects -- projected by the staff in budget materials submitted to the Office of Management and Budget to be in excess of 500 such projects nationwide which will be subjected to FERC investigation and review. Those projects, much more so than new projects, apparently are the target of the Commission's intended coercive use of the threat of civil penalties to force acceptance of jurisdictional status.

10. Other features of the Final Rule: harsh avoidance of the statutory due process requirements.

I also dissent on several other features of the rule. Generally, the Final Rule is unnecessarily harsh and overbearing in its current form, consistent with the approach taken to the unlicensed hydroelectric operations. The Final Rule, at page 9 of the Slip Opinion, for example, includes Commission disagreement to the argument that the Commission does not have the legal authority to consider past violations in reviewing the

nature of a present violation. Here, again, the majority is attempting to bootstrap the new authority to use it as a de facto penalty for past allegations of compliance violations. Any such allegations have not been the subject of any form of formal evidentiary record keeping or review. There was no due process for informal complaints or staff concerns about compliance and certainly nothing like the stringent formal requirements that are mandated by Congress for processing proposed civil penalties. Ignoring all of these important legal considerations the Commission responds, as follows:

> In considering the nature of a present violation, the Commission intends to take into account the violator's compliance history. The Commission believes that an increased penalty is necessary for a repeat violator in order to adequately encourage compliance and to protect the environment and provide greater public safety. The Commission also recognizes that a first-time violator should not be penalized as severely as a repeat violator.

The majority's position would be acceptable if a so-called "repeat violator" had compliance violations that had been documented and processed in accordance with the new rules. That, however, is not the case now and it appears that past informal allegations and complaints, never formally considered by the Commission, can and will be used against a violator.

The Final Rule also declines to adopt a "knowing" standard, which would exclude violations that a licensee did not know of and could not reasonably be expected to know. (Slip Opinion at page 10). The order explains that Congress did not explicitly adopt such a limitation on the imposition of civil penalties in ECPA and, therefore, the Commission will only take that factor into account in determining the size of the penalty, with knowing violations resulting in a greater penalty. Certainly, it would be refreshing to see the Commission pay such attention to the plain meaning of the statute as to application of civil penalties to unlicensed hydroelectric operators, except once again the majority is wrong because Congress did, in fact, explicitly indicate that violations had to be knowing. Nevertheless, the "knowing" standard appears to be obvious on the face of the statutory scheme, with subsection (a) compliance orders required prior to the institution of civil penalty or revocation proceedings. The Senate Committee Report, in discussing the companion provision on enforcement, states that, "in the normal course of events the Committee would expect FERC to give the licensees, exemptee or permittee a reasonable period of time to remedy any violations which may occur." I believe that admonition is directly applicable as well to the issue of whether violations are "knowing" in the first instance in order to be subject to civil penalties. Further, subsection (c) expressly requires the Commission to take into consideration, "the efforts of the licensee to remedy the violation, failure or refusal in a timely manner," in determining the amount of the proposed penalty. There simply could not be a prior compliance order and an opportunity for remedy of the violations, unless it was, in fact, a knowing violation prior to the institution of civil penalties.

The Commission next compounds the error by refusing the reasonable requests of several petitioners to provide affirmative notice of non-compliance and opportunity to correct its conduct before civil penalties liability is triggered. The Final Order does not contain any prior notice requirements nor an affirmative opportunity for remedial action. The Commission states only that it "*may* initially contact persons in an effort to resolve instances of non-compliance, [but] declines to institute this approach as a necessary condition before assessing civil penalties." (Emphasis added). Later, "[t]he Commission also notes that in most instances the Commission *may likely* seek compliance prior to issuing a notice of proposed penalty, but it will not be mandatory for the Commission to proceed in this manner." (Emphasis added). This position of the majority is directly contrary to the express provision of subsection (c) requiring the Commission to consider the efforts of the party to remedy the violation in a timely way, which could only occur if there was (1) notice and (2) an opportunity to correct its conduct. Again, the underlying objective of the majority appears to be use of the civil penalty provisions in ways contrary to Congressional intent generally, and specifically so with regard to unlicensed projects. The pattern of negative responses to the public comments demonstrates that objective.

I would highlight other portions of this order that implement the administrative procedures of Section 31 of the Electric Consumers Protection Act of 1986. The hearing requirements of Section 31 are quite straightforward and were obviously included in the statute to protect the due process rights of all exisiting licensees, exemptees, and permittees. The Rule addresses the hearing requirements of the statute in several key places. The two most important places are the sections dealing with the issuance of compliance orders and assessment of civil penalty orders.

First, concerning the issuance of compliance orders, on page 16 of the slip opinion, the Commission, albeit inartfully, acknowledges that a licensee, exemptee, and permittee has the right to "respond in writing, with written submissions placed into the public record, to satisfy the notice and hearing requirement," which must occur *prior* to the Commission's issuance of a compliance order. This latter point, although not expressly stated in the preamble or regulatory text, is clearly required by the statute and, therefore, must occur *at a minimum* under the operation of the Rule.

Second, it is also clear in my opinion that an assessment order issued by the Commission for civil penalties under Section 31 must include the administrative law judges' findings and the basis for such assessment. Again, the express language to that effect in the Rule is not a matter of any discretion for the Commission, but rather is a direct implementation of the clear requirement expressed in the statute.

11. Conclusion: Final Rule is egregious in its arrogance and pernicious in its effect.

In summary, this Final Rule is fatally flawed in a number of respects, most notably with regard to the application of the civil penalty provisions to parties other than licensees, permittees and exemptees. The Final Rule, unfortunately, follows earlier extralegal activity in the area of unlicensed hydroelectric projects, which has no basis in ECPA or other Congressional direction. Consequently, it comes as no surprise that the Commission here would exceed its statutory authority in several respects in the Final Rule. In my judgment, adoption of such a Final Rule, with application of civil penalties to parties never contemplated, let alone expressly intended, by Congress and with administrative procedures so plainly contrary to the statutory scheme and the intent of Congress, constitutes a flagrant violation of the Commission's independent regulatory authority and responsibilities. The intended imposition of civil penalties of $10,000 per day per violation on parties excluded by Congress is nothing short of raw federal regulatory arrogance, which can never be supported. Here, there simply is not even a scintilla of legislative history evidence or statutory construction analysis to support the conclusion of the majority with regard to unlicensed hydroelectric operations.

In many respects, I believe this Final Order is far more egregious in its arrogance and far more pernicious in its effect than the Kamargo case, which at least involved some colorable policy considerations under ECPA, although I dissented vigorously there. In the instant case, there are no such colorable considerations on any objective basis. The majority has chosen with absolutely no statutory or other legal foundation to misappropriate the civil penalty authority and harshly apply it well beyond ECPA's legal scope. That result cannot be acceptable and, therefore, I dissent.

Charles A. Trabandt

Charles A. Trabandt
Commissioner

UNITED STATES OF AMERICAN
FEDERAL ENERGY REGULATORY COMMISSION

Procedures for the Assessment of)
Civil Penalties under Section 31) Docket No. RM87-24-000
of the Federal Power Act)

ERRATUM NOTICE

(August 19, 1988)

ORDER NO. 502

FINAL RULE

(Issued August 17, 1988)

Page 16, line 9, change "proceeded" to read "preceded".

Lois D. Cashell,
Acting Secretary.

ATTACHMENT

45 FERC ¶ 61 107

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

[18 C.F.R. Part 385]

Procedures for the Assessment of Civil Penalties under Section 31 of the Federal Power Act

[Docket No. RM87-24-001]

ORDER NO. 502-A

ORDER ON REHEARING

(Issued December 13, 1988)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Final Rule; Order on Rehearing.

SUMMARY: The Federal Energy Regulatory Commission (Commission) is denying rehearing of Order No. 502, a final rule establishing procedures for the assessment of civil penalties under section 31 of the Federal Power Act. (53 Fed. Reg. 32,035 (Aug. 23, 1988)). Four petitions for rehearing were filed in this rulemaking docket. Applicants have failed to raise any new material issues of fact.

EFFECTIVE DATE: This order is effective December 13, 1988.

FOR FURTHER INFORMATION CONTACT:

Julia Lake White
Office of the General Counsel
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426
(202) 357-8530

SUPPLEMENTARY INFORMATION:

In addition to publishing the full text of this document in the Federal Register, the Commission also provides all interested person an opportunity to inspect or copy the contents of this

document during normal business hours in Room 1000 at the Commission's Headquarters, 825 North Capitol Street, N.E., Washington, D.C. 20426.

The Commission Issuance Posting System (CIPS), an electric bulletin board service, provides access to the texts of formal documents issued by the Commission. CIPS is available at no charge to the user and may be accessed using a personal computer with a modem by dialing (202) 357-8997. To access CIPS, set your communications software to use 300, 1200 or 2400 baud, full duplex, no parity, 8 data bits, and 1 stop bit. The full text of this final rule will be available on CIPS for 10 days from the date of issuance. The complete text on diskette in WordPerfect format may also be purchased from the Commission's copy contractor, La Dorn Systems Corporation, also located in Room 1000, 825 North Capitol Street, N.E., Washington, D.C. 20426.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

[18 C.F.R. Part 385]

Before Commissioners: Martha O. Hesse, Chairman;
Charles G. Stalon, Charles A. Trabandt,
Elizabeth Anne Moler and Jerry J. Langdon.

Procedures for the Assessment of Civil Penalties under Section 31 of the Federal Power Act) Docket No. RM87-24-001

ORDER NO. 502-A

ORDER ON REHEARING

(Issued December 13, 1988)

The Federal Energy Regulatory Commission (Commission) is denying rehearing of Order No. 502, a final rule establishing procedures for the assessment of civil penalties under section 31 of the Federal Power Act (Act), enacted by section 12 of the Electric Consumers Protection Act of 1986 (ECPA). 1/

The Commission issued Order No. 502 on August 17, 1988. 2/ Four petitions for rehearing of Order No. 502 were filed, on September 15 and 16, 1988. 3/ For the reasons discussed below, the Commission denies rehearing of Order No. 502.

1/ Pub. L. No. 99-495, 100 Stat. 1243 (1986) (codified at 16 U.S.C. § 823(b) (1982)).

2/ 53 Fed. Reg. 32,035 (Aug. 23, 1988), III FERC Stats. & Regs. ¶ 30,828 (Aug. 17, 1988).

3/ Joint Request for Rehearing of Edison Electric Institute, National Hydropower Association, American Public Power Association, American Paper Institute and National Rural Electric Cooperative Association (EEI); Georgia Power Company (Georgia Power); Orange and Rockland Utilities, Inc. (Orange & Rockland); and Upper Peninsula Power Company (Upper Peninsula).

Scope of the Rule.

Order No. 502 concluded that the civil penalty provisions of section 31, which literally apply to "licensees, permittees, and exemptees," likewise apply to those who operate as licensees or exemptees without bothering to obtain the necessary authority from the Commission. The Commission emphasized that a contrary interpretation would impute to Congress the irrational intent of favoring those who completely disregard the law over those who are at least in partial compliance. It would mean that a project owner who went through the process of obtaining a license but violated the terms and conditions of the license or a Commission rule or order would be subject to civil penalties, but one who operated in exactly the same way without a license (or with an expired or revoked license) would be immune from civil penalties even if the project endangered public health, safety or the environment.

The Commission found that the statutory language does not compel such a result and, indeed, that the legislative history shows Congress was concerned about unlicensed operations, expected the Commission to assure compliance with the licensing structure, and gave it enhanced authority, in the form of civil penalty powers, to enforce the law.

All four applicants for rehearing argue that section 31 of the Federal Power Act authorizes civil penalties only against holders of a license, permit or exemption. They maintain that Order No. 502 ignores the plain meaning of section 31(c) and misinterprets the legislative history. 4/ They contend that Congress specified the class of entities against whom penalties are available under section 31(c) and that Congress' use of broader language elsewhere in the Federal Power Act and in other civil penalty legislation compels a narrower reading of section 31(c). 5/

While the commenters focus on the use of the phrase "licensees, permittees, and exemptees" in section 31(c), they ignore language in the enforcement provision indicating that those words should be construed broadly. Apart from the duty to "monitor and investigate compliance with each license and permit," section 31(a) provides separately that "[t]he Commission shall conduct such investigations as may be necessary and proper in accordance with this Act." This responsibility is broad, encompassing the "Act" as a whole and, fairly read, extends to investigations not only of licensed but unlicensed jurisdictional operations as well.

Given the broad authority to investigate, the Commission's authority to issue compliance orders cannot reasonably be restricted to enforcing only the terms of particular licenses, permits or exemptions that have already been issued. Under section 31(a), "[a]fter notice and opportunity for public hearing," the Commission may issue such orders as necessary to require compliance with the "terms and conditions of licenses and permits issued under this Part and with the terms and conditions of exemptions granted from any requirement of this Part." This language is broad and logically encompasses actions necessary to require compliance not only with particular existing licenses but with the licensing structure that is at the heart of the Act and through which the Commission exercises its regulatory responsibilities to protect public health, safety and the environment.

Section 31(c) provides for the civil penalty remedy against those who violate or fail to comply with Commission orders under subsection (a). Given the broad language of section 31(a), however, section 31(c) cannot be read narrowly as petitioners claim, but must be understood as encompassing Commission orders intended to bring unlicensed operators into compliance. 6/

Moreover, the language of section 31(c) itself provides further indication that the words "licensee, permittee, or exemptee" were not meant to be construed narrowly and literally.

4/ See, e.g., EEI Orange & Rockland and Upper Peninsula.

5/ See, e.g., EEI and Orange & Rockland.

6/ The legislative history confirms that Congress intended the civil penalty remedy to be available for any problem covered by subsection (a) of section 31. According to the House Committee, civil penalties could be applied "for failure or refusal to comply with a subsection (a) order or any matter referenced in subsection (a) or for violations of such matters or orders." H.R. Rep. No. 99-507; 99th Congress, 2nd Sess. at 40.

While section 31(c) mentions civil penalties against a licensee, permittee or exemptee, it instructs the Commission in determining the amount of any penalty to consider remedial "efforts of the licensee" but fails to mention remedial efforts by exemptees or permittees. Since there is no rational basis for considering remedial efforts by the one but not by the others, Congress plainly intended no distinctions between them. No commenter has suggested the Commission should follow the literal language and therefore recognize remedial efforts by licensees but not by exemptees and permittees. Congress was using the word "licensee" in a broad and not a literal sense to include all jurisdictional operators. Similarly, the phrase "licensee, permittee or exemptee" may be read to encompass anyone engaged in conduct requiring a license or exemption.

At the very least, the language of sections 31(a) and 31(c), read together, reveals an ambiguity about the intent of Congress that justifies recourse to legislative history as an aid to construction. The Commission therefore has the latitude and the responsibility to look behind the words of section 31 to determine and implement the intent of Congress. Moreover, the commenters' arguments about "plain meaning" ignore the Supreme Court's pronouncement in American Trucking and other judicial decisions cited by Order No. 502. 7/ As American Trucking holds,

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7/ U.S. v. American Trucking Associations, Inc. et al., 310 U.S. 534 (1940); Commodity Futures Trading Commission v. Savage, 611 F.2d 270 (9th Cir. 1980).

where the literal words of a statute lead to "absurd or futile" results, the courts look "beyond the words to the purpose of the act," and even when the language does not "produce absurd results but merely an unreasonable one 'plainly at variance with the policy of the legislation as a whole,'" the courts follow "the purpose rather than the literal words." 8/ When aid to construction of the meaning of statutory words is available "there certainly can be no 'rule of law' which forbids its use, however clear the words may appear on 'superficial examination.'" 9/

This approach is likewise reflected in Commodity Futures Trading Commission v. Savage, where the U.S. Court of Appeals ruled that certain trading violations under the Commodity Exchange Act, applicable by statute to persons "registered under this Act," also covered trading advisors who should have registered but had failed to do so. "It would be anomalous, indeed," said the Court, "if an advisor could escape the fiduciary duties of [the statute] by avoiding required

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8/ American Trucking at 543. See also Trans Alaska Pipeline Rate Cases, 436 U.S. 631, 643 (1978), where the Court said: This Court, in interpreting the words of a statute, has "some 'scope for adopting a restricted rather than a literal or usual meaning of its words where acceptance of that meaning would lead to absurd results . . . or would thwart the obvious purpose of the statute' . . . [b]ut it is otherwise 'where no such consequences would follow and where . . . it appears to be consonant with the purposes of the act . . .'" (citations omitted)

9/ American Trucking, 310 U.S. at 543-545.

registration." 10/ Likewise, the Commission believes it would be anomalous if the operator of a jurisdictional project could escape civil penalties even in the most egregious circumstances by avoiding required licensing.

Petitioners' reading leads to the result that while the Commission's authority to investigate is broad, its authority to enforce its investigations is narrow. This reading of the statute leads to absurd results and is contrary to the legislative history. As Order No. 502 found, the legislative history of section 31 indicates that Congress intended civil penalties to apply not only to holders of licenses or exemptions but also to those who are required to have a license but have failed to secure one. The civil penalties section originated in the House. When the divergent views of the House and Senate were reconciled in conference, the resulting conference report had no specific discussion of civil penalties. Rather, that conference report addressed "the principal differences between the Senate

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10/ Commodity Futures Trading Commission v. Savage at 281-282. At the time of the alleged trading violations, the Commodity Act made it unlawful for a trading advisor "registered under this Act" to employ various fraudulent devices. Subsequently, the phrase "registered under this Act" was removed from the statute to make clear that persons required to register but failing to do so were covered. Savage argued that because he was not registered at the time of the alleged violations and because Congress had not yet changed the law, the provision did not apply to him. The court acknowledged that the subsequent deletion of the troublesome phrase might suggest that a gap existed prior to the amendment. It concluded, however, that the statute should always have been interpreted to apply to persons required to register and that the amendment merely clarified that interpretation.

bill, the House amendment and the substitute agreement." 11/ Consequently, the House Committee Report is the most authoritative legislative history as to the civil penalties provisions. The House Committee explained that the purpose of the enforcement section was to buttress and improve the Commission's capability in dealing with certain concerns. The very first concern highlighted by the House Committee Report was the problem of unlicensed hydroelectric projects, a problem the Committee described by quoting from certain testimony by Edward G. Horn, chief ecologist for the New York State Department of Environmental Conservation.

EEI argues the Commission misconstrued the legislative history. On the basis of a single reference to "grandfathered" projects near the end of a 20-line quotation that otherwise deals exclusively with unlicensed operations, EEI claims Mr. Horn's testimony was really a plea not for more enforcement remedies against unlicensed projects but for an amendment of the Act to require licenses for grandfathered projects. EEI's contention is inaccurate and also beside the point. Mr. Horn's full testimony 12/ on this issue indicates he was concerned both about unlicensed projects and grandfathered projects and recommended additional

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11/ H. Rep. No. 99-934, 99th Cong., 2nd Sess. at 21.

12/ Hearings before the Subcommittee on Energy Conservation and Power of the Committee on Energy and Commerce on H.R. 44, H.R. 1815, H.R. 1959, and H.R. 2605, 99th Cong., 1st Sess., 85-102 (1985) (statement of Edward G. Horn, New York State Department of Environmental Conservation) enforcement powers for the Commission to deal with unlicensed operations as well as new legislation to subject grandfathered projects to Commission regulation. In terms of the legislative history of section 31, however, what is significant is not Mr. Horn's testimony, per se, but the point the Committee was making by quoting from it. The Committee underscored the portion of the quote it found most significant as follows:

> At the present time, numerous hydroelectric stations throughout the country, particularly in the Northeast, are being operated without licenses or exemptions from licensing. 13/

It is obvious that the Committee was using the Horn quotation to explain its concern about unlicensed jurisdictional projects, not grandfathered projects which require no license. Congress was not proposing to change the status of grandfathered projects and can hardly have intended a lawful activity to be the focus of greater enforcement effort.

EEI next argues that when the House Committee said it expected the Commission "to locate projects that are being operated without legal authority and to enforce the law" 14/ it was merely exhorting the Commission to use its preexisting powers to seek compliance with the Act. Order No. 502 reads the language to imply that the new enforcement authority (i.e., civil penalties) could be used to bring unlicensed jurisdictional

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13/ H.R. Rep. No. 99-507, 99th Cong., 2nd Sess. at 39 (1986) (emphasis in original).

14/ *Supra* note 12.

projects into compliance. EEI's contrary contention ignores the context of the Committee's statement.

The Committee first quoted a number of concerns about enforcement that had been mentioned by Mr. Horn in his testimony (including the problem of unlicensed projects), and then concluded:

> These concerns . . . indicate that FERC enforcement efforts need buttressing and improvement. That is the purpose of this section. 15/

Therefore, the Committee clearly contemplated that the new enforcement tools of section 31 of the Act would be used to improve the Commission's enforcement efforts in dealing with the concerns that had already been identified, including the problem of unlicensed operations.

Finally, EEI advances policy arguments against imposing civil penalties on unlicensed operators. It argues that the failure to seek Commission authority may result from a good faith disagreement over difficult jurisdictional issues, and that the threat of civil penalties may unfairly prompt unlicensed operators to submit to Commission jurisdiction despite having serious doubts about that jurisdiction.

The Commission is not persuaded by EEI's policy arguments. There may indeed be circumstances in which it will be inappropriate to impose civil penalties on unlicensed operators just as there will be situations when it may be unfair to impose

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15/ *Supra* note 13 (emphasis added).

penalties in connection with violations by holders of a license, permit or exemption. However, the fact that civil penalties may sometimes be inappropriate is not a valid argument for exempting unlicensed operators from civil penalties in all circumstances -- even, for example, where a jurisdictional determination has been made by the Commission and the project is harmful to public health, safety or the environment. This rule does not purport to decide the precise circumstances in which civil penalties will be imposed or the amount of those penalties. Such determinations will be made by the Commission in particular factual contexts and on the basis of numerous considerations, including the broad factors listed in § 385.1505 of the Commission's regulations. 16/ The Commission retains ample discretion to assure fair treatment while also meeting its responsibility to protect public health, safety and the environment.

Moreover, the argument that civil penalties should never apply to unlicensed operators because their failure to seek a license may result from a disagreement with the Commission on intricate questions of jurisdiction ignores the fact that disputes about difficult legal or factual issues are hardly unique to unlicensed operators. 17/ Allegations that a license holder has violated the terms or conditions of its license or a

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16/ 18 C.F.R. § 385.1505 (1988).

17/ Also, violations of other Commissions orders may be committed by unlicensed operators who do not dispute jurisdiction and may indeed be in the process of applying for a license.

Commission rule or order may also give rise to difficult legal and factual questions and to assertions by the licensee that it simply has a good faith disagreement with the Commission or its staff. The Commission's experience with civil penalties under the Natural Gas Policy Act of 1978 indicates that arguments of this kind are frequently made by natural gas companies as well. Such arguments, however, do not support blanket immunity from civil penalties. A civil penalty will not be imposed until after a final determination by the Commission that the project in question is jurisdictional 18/ and is being operated without legal authority, but may be assessed back to the effective date of ECPA. Unlicensed operators are provided with ample procedural opportunities to challenge any element of the alleged violation including the issue of jurisdiction.

EEI's concern that the threat of civil penalties may persuade an unlicensed operator to submit to Commission jurisdiction is really a general objection to civil penalties as a remedy, especially where, as here, Congress has fixed a maximum penalty amount for each day the violation continues. 19/ The

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18/ For the purposes of discussion in this order, "jurisdictional" means required to be licensed pursuant to section 23(b)(1) of the FPA, 16 U.S.C. § 817(1). See Cooley v. FERC, 843 F.2d 1464 (D.C. Cir. 1988)

19/ Georgia Power also argues that the Commission should not assess civil penalties until there has been a final, nonappealable determination that a project is subject to the Act. Order No. 502 already concluded that the Commission would not stay its penalty orders on a generic basis, but would exercise its administrative discretion on a case-by-
(continued...)

classic purpose of civil penalties is to encourage compliance with the law. It is therefore not surprising that civil penalties do give the Commission greater enforcement authority which should encourage greater compliance both by license holders and by those who operate as licensees. This is what Congress intended. As the Commission observed in Order No. 502, because "the stakes are now higher," persons should be more inclined to request a jurisdictional determination from the Commission before embarking on the construction or operation of a hydropower project that may be jurisdictional.

Similarly, the Commission rejects EEI's argument that while civil penalties may be imposed for violations of any rule or regulation under Part I of the Act, violations of the terms or conditions of licenses, permits and exemptions under Part I or violations of a compliance order, section 31 bars the Commission from assessing penalties for violations of Part I itself. We do not accept the artificial distinction EEI attempts to draw between the statute and regulations and licenses under the statute or orders designed to assure compliance with the statute. Violations of Part I of the Act are already embraced in the other actions specified as subjecting persons to civil penalties, and Commission rules, regulations and compliance orders cover not

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19/(...continued)
case basis. Order No. 502 also stated, at p. 31,221, that "the mere filing of an appeal does not free any person from liability for engaging in unlawful conduct that is subject to civil penalty."

only the holders of a license but those who are required to have a license. In other words, any person who violates a rule or regulations issued under Part I, who violates the terms and conditions of a license, permit or exemption under Part I, or who violates an order requiring compliance with Part I, is violating Part I. The artificial character of EEI's argument is underscored by the fact that the Commission can at any time formally incorporate the statutory standards into its own regulations. Whether or not civil penalties are available as a remedy does not turn on such arid formalism.

Assessment of Civil Penalties from ECPA's Enactment Date.

EEI and Georgia Power contend that the Commission should revise the civil penalties rule so that it applies only to prospective violations. They claim that they should not face penalties under a new set of rules for violations that may have occurred before the rule issued. They argue that although ECPA provided a framework within which civil penalties would be assessed, many aspects of the civil penalties rule could not be foreseen based on a reading of ECPA, and that, therefore, retroactive application of the civil penalties rule would be unjust.

ECPA provides the Commission the authority to assess civil penalties as a means to enforce the Act. Project owners were on notice from the enactment of ECPA that they might be subject to civil penalties for violations of the Act. The Commission's regulations simply established the procedures for assessing these civil penalties. The Commission explained in its notice of proposed rulemaking (NOPR) in this docket that section 31(c) is silent as to whether Congress intended to give the Commission authority to assess a civil penalty for violations of the Act occurring prior to the enactment of ECPA. 20/ The Commission, therefore, proposed in § 385.1503 to apply the civil penalty provisions of section 31 of the Act prospectively, and declared that the rules would apply to conduct occurring only on or after enactment of ECPA, even if that conduct began before that date.

It is disingenuous for those subject to the requirements of the Act to claim that prior to adoption of our regulations here, they had no notice that violations of the Act could subject them to assessment of civil penalties. ECPA clearly places violators of the Act at risk for assessment of civil penalties, and those operating under the Act should have known upon its enactment that as of that date they ran the risk of being assessed civil penalties for improper conduct. Accordingly, we affirm that licensees, permittees, or exemptees are subject to assessment of civil penalties for improper conduct occurring on or after the date of enactment of ECPA. Regarding projects that should have a license or exemption but do not, civil penalties will be assessed in these situations after issuance of an order establishing

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20/ See Procedures for the Assessment of Civil Penalties under Section 31 of the Federal Power Act, Notice of Proposed Rulemaking, 52 Fed. Reg. 29,216 (Aug. 6, 1987), FERC Stats. & Regs. [Proposed Regulations 1982-1987] ¶ 32,450 (Aug. 3, 1987).

Commission jurisdiction, but the liability for civil penalties will extend to improper conduct occurring on or after the date of enactment of ECPA.

Section 31(a) Compliance Order Procedures.

Section 31 of the Act has four subsections. Subsection (a) affirms the Commission's authority to monitor and investigate compliance with licenses, permits and exemptions issued for hydroelectric projects. This subsection also provides the Commission authority to issue compliance orders which, if violated, provide the basis for enforcement action under subsections (b) or (c). Subsection (b) states the conditions under which the Commission may issue an order revoking a license or exemption. Subsection (c) sets forth the persons subject to a civil penalty, the conduct which may subject those persons to a civil penalty, and factors which the Commission will take into account in determining the amount of the proposed penalty. Subsection (c) also provides that no civil penalty will be assessed where revocation is ordered. Subsection (d) establishes alternative civil penalty assessment procedures.

EEI argues that the Commission should provide guidelines and procedural protections for the issuance of compliance orders pursuant to section 31(a) of the Act. It is concerned particularly with those situations where the owner of an unlicensed project is faced with the assessment of civil penalties for not having a license, and the question of whether penalties should be assessed is one of Commission jurisdiction over the project. EEI requests the Commission to identify: (1) the factors or circumstances that may lead the Commission to issue a compliance order; (2) the Commission staff member or members with authority to issue the orders; and (3) the procedural protections that will be afforded project owners before any order is issued.

Additionally, EEI argues that if a compliance order must issue, it should be under sufficient guidelines, and with sufficient procedural protections, to ensure that the project owner gets a fair result. According to EEI, at a minimum, project owners must be notified of an impending compliance order and given an opportunity to respond in writing. The Commission should also provide that it will consider the project owner's response before issuing a compliance order and that it will base its decision on the entire public record before it, including the owner's response. Upper Peninsula argues further that section 31 of the Act and its legislative history require a formal evidentiary hearing prior to issuance of a compliance order pursuant to section 31(a) of the Act.

It is unnecessary to establish regulations for issuing compliance orders pursuant to section 31(a). 21/ Presently, the

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21/ See Regulations Delegating Authority, 53 Fed. Reg. 16,058 at (May 5, 1988); III FERC Stats. & Regs. ¶ 30,814 at 31,119 (1988), where the Commission stated:

> The Commission is delegating to the Director [of Hydropower Licensing] the authority to require a licensee or an applicant to take actions necessary to comply with the Commission's dam safety regulations or
> (continued...)

Office of Hydropower Licensing (OHL) initiates a compliance order proceeding by sending the project owner a letter indicating that the owner may be subject to action pursuant to section 31 of the Act. The letter identifies the problems the project owner must address and indicates that the owner must respond within a specified period of time. The owner then has the opportunity to respond to the letter in writing, setting forth reasons why the proposed action, including assertion of Commission jurisdiction over a project, should not be taken. The Director of OHL then either terminates the action or issues a compliance order pursuant to § 375.314 of the Commission's regulations. An

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21/(...continued)

> actions that are otherwise necessary to protect human life, health, property, or the environment. This delegation would make enforcement action by the Commission more rapid and effective. (citations omitted)

Specifically, § 375.314(h) of the Commission's regulations authorizes the Director to:

> For any unlicensed or unexempted hydropower project, take the following actions:
>
> (1) Conduct investigations to ascertain the Commission's jurisdiction,
>
> (2) Make preliminary jurisdictional determinations, and
>
> (3) If a project has been preliminarily determined to require a license, issue notification of the Commission's jurisdiction; require the filing of a license application; and require that actions necessary to comply with Part 12 of this chapter or otherwise protect human life, health, property, or the environment are taken.

owner's failure to comply with the compliance order will subject the owner to civil penalties under Subpart O of Part 385 of the Commission's regulations. The Commission believes these procedures will give project owners ample notice and opportunities to respond in writing prior to triggering the procedures for assessment of civil penalties. 22/

Consideration of Additional Factors.

EEI argues that the Commission should revise the list of factors in § 385.1505 that it will consider when determining the amount of a proposed penalty to: (1) exclude consideration of a project owner's history of past violations, (2) exclude consideration of unknowing violations and (3) indicate that the economic benefits factor will only be considered if a project owner knowingly engaged in a violation with the goal of economic gain. EEI argues further that, at the very least, the Commission should consider only those past violations that occurred on the project owners' watch at the project in question and relevant to the violation in question. EEI contends that to consider alleged violations at projects other than the one under consideration

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22/ Georgia Power complains that certain self-reporting requirements regarding license violations recently imposed in a Commission compliance letter to it are inconsistent with the notice and hearing requirements in section 31(a), with language in the preamble to the Commission's final rule and with section 6 of the Federal Power Act, which requires agreement of the licensee prior to any alteration of the license. Georgia Power mischaracterizes the letter as one requiring compliance. In fact, the letter represents only a contact with Georgia Power regarding violations of the terms of a project license that had no adverse consequences and about which no further action was deemed necessary.

would unfairly prejudice multiple project owners, for whom the risk of past violations is higher in proportion to the number and size of their projects.

The Commission assesses civil penalties based on a careful weighing of the seriousness of the violation and any mitigating factors that may be present. The Commission explained in Order No. 502 that in considering the nature of a present violation it will take into account the violator's compliance history. An increased penalty is necessary for a repeat violator in order to encourage compliance and to protect the environment and provide greater public safety. In contrast, a first time violator should not be penalized as severely as a repeat violator.

Next, the Commission will not adopt by generic regulation a knowing violation standard that Congress did not impose. There is no statutory requirement that a violation be a knowing one before being subject to civil penalties.

The Commission is sensitive to the fact that its enforcement actions must be fair as well as effective. Whether a violation is knowing will therefore be an important consideration in the individual proceedings that will determine what civil penalties, if any, are applied in specific factual circumstances. However, in the absence of more extensive experience with civil penalties, the Commission is not prepared to adopt on its own as a universal requirement a particular legal standard that carries with it an extensive judicial gloss and has the potential to encourage prolonged disputes that a concern for fairness may not require.

By the Commission. Commissioner Trabandt dissented with a separate statement attached.

(S E A L)

Lois D. Cashell
Lois D. Cashell,
Secretary.

Procedures for the Assessment)
of Civil Penalties Under) Docket No. RM87-24-001
Section 31 of the Federal Power Act)

(Issued December 13, 1988)

TRABANDT, Commissioner, Dissenting:

The majority has largely ignored the legal arguments I presented in my August 17, 1988 dissent in this proceeding as well as several persuasive legal and policy concerns contained in the petitions for rehearing, and for this reason I must again dissent.

The first six pages in my August 17th dissent discuss current standards of statutory construction. "Plain meaning" principles of statutory construction were also discussed in the joint petition for rehearing filed by the Edison Electric Institute, the National Hydropower Association, the American Paper Institute, and the National Rural Electric Cooperative Association (EEI Petition) at pages 7-10, as well as in the petition for rehearing filed by Orange & Rockland (O&R) at pages 6-12. Both petitions highlight the conclusion contained in my dissent that recent case law establishes current standards for statutory interpretation.

However, the majority insists on U.S. v. American Trucking Ass'n. Inc., 310 U.S. 534, 543 (1940) as dispositive precedent for statutory interpretation (slip op. at 5-7) and ignores the 48 years of Supreme Court cases since American Trucking which have sharpened the focus on the plain meaning of the statute, in order to fulfill what the majority has determined to be one of the "purposes" of the Electric Consumers Protection Act of 1986 (ECPA). In so doing, the majority is usurping the role of Congress. As O&R pointed out in its Petition at page 22, the Supreme Court cautioned that the "broad purposes" of legislation must not be invoked at the expense of the actual terms of the statute. In Board of Governors of Federal Reserve System v. Dimension Financial Corporation, 474 U.S. 361 (1986), the Court reasoned:

> Application of 'broad purposes' of legislation at the expense of specific provisions ignores the complexity of the problems Congress is called upon to address and the dynamics of legislative action. Congress may be unanimous in its intent to stamp out some vague social or economic evil; however, because its Members may differ sharply on the means for effectuating that intent, the final language of the legislation may reflect hard fought compromises. Invocation of the 'plain purpose' of legislation at the expense of the terms of the statute itself takes no account of processes of compromise and, in the end, prevents the effectuation of congressional

intent.

Id. at 373. See also EEI Petition at page 15 and cases cited therein.

In addition to the legal flaws contained in the majority's order, there are factual ones as well. As discussed in my August 17th dissent (slip op. at 8-11) and in EEI's Petition (at 7-9), the majority misuses the Congressional testimony of Edward G. Horn, chief ecologist for New York State Department of Environmental Conservation, which was contained in the House Report on ECPA. As EEI's Petition points out, all of Mr. Horn's concerns apply equally to lawfully unlicensed projects and unlawfully unlicensed projects. In the instant order, the majority once again distorts the legislative history by using Mr. Horn's remarks for the proposition that Congress intended section 31(c) penalties to apply to unlicensed owners. Moreover, delving into the legislative history at the expense of the plain words of the statute treads dangerous ground as the D.C. Circuit Court recently opined in Abourezk v. Reagan, 785 F.2d 1043 (D.C. Cir. 1986):

> [W]e think it plainly wrong as a general matter . . . to regard committee reports as drafted more meticulously and as reflecting the congressional will more accurately than the statutory text itself. Committee reports, we remind, do not embody the law. Congress, as Judge Scalia recently noted, votes on the statutory words, not on different expressions packaged in committee reports. Hirschey v. FERC, 777 F.2d 1, 7-8 & n.1 (D.C. Cir. 1985)(Scalia, J., concurring).

EEI's Petition also highlights other administrative civil penalty statutes and pointed out that these enactments including section 31(c), are similar in form and, because they address the same subject matter -- administrative enforcement by civil penalty -- should be read together to ascertain the meaning of any one (EEI Petition at 10-15). Examples cited are section 234(a) of the Atomic Energy Act of 1954, and section 11901 of the Interstate Commerce Act as extensively amended in 1978. EEI argues that there is no reason to suggest that Congress meant anything other than what it said in section 31(c) inasmuch as Congress has in other enactments taken care precisely to delimit the scope of civil penalty liabilities in terms of the entities against which penalties may be assessed. The instant rehearing order fails to address this important point.

I do not wish to diminish the genuine concern with which my colleagues view the unlicensed projects issue, though in my view at least this should not concern us as much as my colleagues seem to think. However, notwithstanding our disagreement on the gravity of the problem, it is important to note that the Commission for many years has had procedures in place to effectively deal with unlicensed projects without the use of civil penalties, another fact the majority completely ignores.

For example, in the so-called Androscoggin decision, Public Service Co. of New Hampshire, 27 F.P.C. 830 (1962), the Commission identified three principal factors to be taken into account when considering cases involving the unlicensed project issue: (1) to the extent feasible, it is the burden of a sound licensing policy to minimize the inequity of an unlicensed project owner reaping a windfall from a delay in filing for a required license; (2) the Commission's past failure, for want of funds or manpower, to enforce general compliance and the large number of projects that had operated without a license since 1935 indicated the need for a discriminating approach in order to effectively address the unlicensed project issue; and (3) in regard to termination date of a license, it was reasonable to shorten the license term to take account of significant 1943 decisions holding navigable a stream usable for log transport, and thus giving notice of the perils of further unlicensed operation to the owner of a project in such a stream. So the Commission fixed December 3, 1993 - fifty years after that 1943 notice - as the termination date of the Androscoggin license.

Moreover, several years after Androscoggin, the D.C. Circuit Court enhanced the Commission's ability to deal effectively with the unlicensed project issue by citing with approval the Androscoggin decision and by expressly holding that the Commission has statutory authority to assign an effective date for licenses issued to a project owner earlier than the date of issuance of license when the project involved was one constructed or maintained without a license in violation of law. See Niagara Mohawk Power Corporation v. FPC, 379 F.2d 153 (D.C. Cir. 1967). This procedure could include in appropriate cases the assessment of substantial back payments of annual charges. In addition, if unlawful construction of projects is the majority's concern, the Commission has ample authority to enjoin such violation of the Act under section 314(a) of the Federal Power Act of which the Commission's enforcement staff has availed itself in recent years. Clearly, the Commission is not defenseless and instead has developed a formidable arsenal of procedural weaponry to encourage unlicensed project owners to file for licenses if required by law.

In any event, the 1986 amendments to the Federal Power Act made by the Electric Consumers Protection Act (ECPA) do not in any substantive way address unlicensed hydroelectric operation. Indeed, the House Report which is so enthusiastically embraced as justification for the majority's decision, refers to unlicensed operation as an "alleged problem." The House Committee Report does not recommend or even suggest that the Commission must or should apply civil penalties to unlicensed hydroelectric projects. Instead the House Report merely opines that it expects the Commission to locate projects that are being operated without legal authority and to enforce the law, and directs the Commission to make a "report to the Committee within six months about this alleged problem." (Emphasis added.) It is hard to fathom that Congress would have prescribed such a punitive measure without some specific discussion as to why it is necessary, particularly in light of the House Committee's request to obtain further information in the form of a Commission Report on the "alleged problem." I for one have never seen the report, and in any event, if Staff did send such a report, Congress has not seen fit to act or acknowledge a need for the Commission to act.

At the November 16, 1988 Commission Meeting, all of my colleagues agreed that the imposition of civil penalties of $10,000 a day with possibly retroactive effect to October 16, 1986, the date ECPA became law, is an extraordinary measure with serious due process implications. Yet, without any hard evidence that extraordinary measures are needed, the majority has adopted a flawed interpretation of section 31 of the FPA that will have the effect of chilling efforts to legitimately offer counter arguments to Commission determinations of jurisdiction. I submit that such an effect is clearly not in the public interest.

This persuades me that the more rational approach is to continue with the procedures already in place for dealing with unlicensed projects which have been effectively implemented for many years. By staying this course, we will be able to perform our responsibilities and, at the same time, abandon the strained interpretation of section 31 that will unnecessarily and illegally permit the Commission to use civil penalties as a cudgel to coerce unlicensed projects to accept Commission determinations of jurisdiction.

Charles A. Trabandt
Charles A. Trabandt
Commissioner

ATTACHMENT

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Wolverine Power Corporation) Docket No. E-7319-000

NOTICE OF PROPOSED PENALTY

(February 23, 1989)

Take notice that the following penalty assessment is proposed pursuant to section 31 of the Federal Power Act (FPA), 16 U.S.C. § 823b (Supp. IV 1986), and this Commission's Rule 1505. See Procedures for the Assessment of Civil Penalties under Section 31 of the Federal Power Act, 53 Fed. Reg. 32,035 (1988), FERC Statutes and Regulations ¶ 29,021, (to be codified at 18 C.F.R. § 385.1501-1511).

a. Docket No: E-7319

b. Operator: Wolverine Power Corporation

c. Name of Projects: Edenville Water Power Project, Smallwood Water Power Project, Secord Water Power Project

d. Location: On the Tittabawassee River in Gladwin County, Michigan

e. Operator contact: Louis Rosenman, Esq.
LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, N.W.
Suite 1100
Washington, D.C. 20036

f. FERC contact: Richard A. Azzaro
Office of the General Counsel
Enforcement section
phone: (202) 357-5228

g. The Violation: Wolverine is violating the requirements of Part I, section 23(b) of the FPA, 16 U.S.C. § 817 (1982), which requires any person who is operating or maintaining a dam for the purpose of developing electric power on a navigable waterway of the United States to obtain a license (or an exemption from licensing) from the Commission. Wolverine is operating and maintaining the Edenville, Smallwood and Secord water power projects on a navigable waterway of the United States without licenses (or exemptions).

h. Statement of Material Facts on Which the Violation is Based:

1. On February 18, 1976, the Commission found that: (1) the Tittabawassee River is a navigable waterway of the United States and (2) Wolverine shall make applications for license for the Sanford, Edenville, Smallwood and Secord developments pursuant to Part I of the Federal Power Act. 16 U.S.C. §§ 792 *et seq.* (1982).

2. On February 18, 1976, the Commission ordered Wolverine to complete and submit within six months (*i.e.*, August 18, 1976) applications for license under the Federal Power Act, and the Commission's regulations thereunder, for the Sanford, Edenville, Smallwood and Secord hydroelectric developments on the Tittabawassee River.

3. On August 16, 1976, the Commission granted Wolverine an extension of its filing date for the four license applications to December 31, 1976.

4. In December 1976, Wolverine filed a timely application for the Sanford project, but requested further extensions for the other three applications.

5. On February 7, 1977, the Commission adopted Wolverine's proposed filing schedule for Edenville, Smallwood and Secord of four, six and eight months, respectively, after the application for the Sanford project was found to be in conformance with the applicable regulations.

6. On October 21, 1983, the Commission notified Wolverine that its application for the Sanford project was found to be in conformance with applicable regulations and accepted for filing. Under the filing schedule adopted by the Commission, the remaining applications became due as follows:

Edenville	February 21, 1984;
Smallwood	April 21, 1984;
Secord	June 21, 1984.

7. Wolverine has not yet submitted acceptable license applications for the Edenville, Smallwood or Secord projects.

8. At all times since October 16, 1986, Wolverine has and continues to operate and maintain the Edenville, Smallwood and Secord hydroelectric projects without licenses from the Commission.

i. Proposed Penalty: Section 31 of the FPA, 16 U.S.C. § 823b, provides the broad contours of mandatory "considerations" within which the Commission exercises its discretion to find an appropriate penalty amount. Under the statute, and the rules implementing it, 18 C.F.R. § 385.1505 (1988), the Commission considers the nature and seriousness of the violation and the efforts to remedy the violation in a timely manner. The Commission bases that analysis on whether the person had actual or constructive knowledge of the violation; the person's compliance history; whether the violation caused loss of life or injury; whether the violator obtained economic benefits; whether the violation damaged or endangered persons, property or the environment and whether there were any remedial efforts, and if so, when they took place.

Taking these factors into consideration along with the size of the projects and the revenues produced, the Commission is proposing penalties totaling $2000 per day as follows: $1400 per day for the Edenville project; $350 per day for the Secord project; and $250 per day for the Smallwood project. Wolverine's failure to file acceptable license applications is serious and it has not remedied the violation.

As provided under section 31 of the FPA, separate penalties will be assessed for each project for each day of violation. The Commission will assess penalties from the effective date of section 31, October 16, 1986, until Wolverine brings each project into compliance with section 23(b) of the FPA by filing an acceptable license application. (For the period from October 16, 1986, to February 15, 1989, this totals $1,708,000, or $1,195,600 for Edenville, $298,900 for Secord, and $213,500 for Smallwood. These amounts will increase at the daily rates stated above.)

The following factor-by-factor analysis supports the conclusion that the violation is serious, and that Wolverine has failed to make significant remedial efforts.

(1) Whether Wolverine had actual knowledge or constructive knowledge of the violations

Wolverine has had actual knowledge that it failed to meet its own schedules for filing the Edenville, Smallwood and Secord applications.

Staff has spent substantial time giving specific directions to Wolverine for preparing and filing license applications and has repeatedly advised Wolverine that it has violated and is violating section 23(b) of the FPA. Correspondence from staff to Wolverine restated the Commission's order, recited the law requiring Wolverine to come into compliance with that order, and warned Wolverine of possible enforcement action for continued non-compliance.

(2) Whether Wolverine has a history of previous violations

Wolverine's failure to file license applications constitutes continuous violations predating ECPA. The Commission adopted a schedule proposed by Wolverine that set filing dates based upon the Commission accepting the Sanford license application. Wolverine, after years of delay, finally filed an acceptable application for Sanford in 1983. Thus, according to the adopted schedule, the other three applications became due in 1984. Wolverine has not yet submitted acceptable license applications for the Edenville, Smallwood and Secord projects.

(3) Whether Wolverine's violations caused loss of life or injury to persons

There has been no reported loss of life or injury to persons because of Wolverine's violations. Two of the three dams in question are classified as "high hazard" (Edenville and Smallwood), so that structural failures could lead to significant loss of life. Wolverine corrected structural problems at Edenville after staff identified them in 1986. Wolverine filed Emergency Action Plans for Edenville and Smallwood in 1987, within one month of their due dates. The Commission sees compliance with safety requirements as a factor mitigating against a higher penalty.

(4) Whether economic benefits were derived because of these violations

Wolverine has operated the three projects in a peaking power mode. By avoiding the licensing process and Commission regulation that may require either a run-of-the river operation or continuous passage of a minimum flow, Wolverine continues to realize the higher revenues associated with peak power sales and avoids the costs associated with run-of-river or minimum flow operations, e.g., gauging stations and flow studies.

Because Wolverine has not filed for or obtained licenses for the Edenville, Smallwood and Secord projects, Wolverine has not paid annual charges for them under section 10(e) of the FPA. Licensed project operators have been paying for Wolverine's share of the Commission's administrative costs.

(5) Whether the violations caused damage to property or the environment; and (6) Whether the violations endangered persons, property, or the environment

Because Wolverine has not yet filed acceptable license applications with the necessary environmental studies, the Commission can not determine whether Wolverine's unlicensed operations have caused damage to property or to the environment, or endangered persons, property, or the environment. Wolverine has never complied with Commission regulations concerning the agency consultation process, despite repeated efforts by staff, the U.S. Fish and Wildlife Service (FWS) and the Michigan Department of Natural Resources (MDNR). The agency consultation process is essential for the Commission to evaluate the impact of a project on property and the environment.

Although the damage and endangerment factors neither increase nor decrease the penalty amount, nonetheless, if the views of various federal and state authorities are any indication, there is a risk that damage has or may occur. The FWS and the MDNR have expressed repeatedly to both the Commission and Wolverine their concern about the detrimental effects of the projects' "peaking" mode of operation on MDNR's fishery restoration program and on other aspects of the environment of the Tittabawassee River basin.

(7) Whether there were timely, untimely, or no remedial efforts

Wolverine has not made timely efforts to remedy its violations. In fact, it appears that Wolverine has made every effort to delay compliance. Only after years of effort by staff did Wolverine submit license applications. By three letters dated March 30, 1987, OHL notified Wolverine that the license applications for the Edenville, Smallwood and Secord projects that Wolverine filed in late 1986 and early 1987 failed to comply with the Commission's regulations. 18 C.F.R. § 4.38. The deficiencies involved the environment (failure to consult with MDNR or FWS, failure to conduct reasonable studies of impacts on fish, wildlife, and water quality, failure to conduct studies of downstream impacts of peaking-mode of operation, and failure to explain the project's role in state and regional water resource development programs). The Director of the Commission's Office of Hydropower Licensing (Director) granted Wolverine 90 days to correct these deficiencies, but Wolverine did not correct them and, consequently, on July 30, 1987, the Director dismissed Wolverine's applications. Wolverine did not subsequently file license applications for the three projects.

(8) Whether there are any other pertinent considerations

There are no other pertinent considerations.

The proposed penalty was based on analysis of the factors discussed above. The final penalty, if any, will be based on reanalysis of the relevant factors in light of the entire record, including information provided by the respondent. In no event will a final penalty resulting from this notice be greater than the proposed penalty.

Pursuant to section 31 of the FPA and section 385.1507 of the Commission's regulations, Wolverine is informed of the opportunity to elect in writing 30 days from receipt of this notice to have the procedures of section 385.1509 (in lieu of section 385.1508) apply with respect to the assessment of penalties. (See 53 Fed. Reg. 32,035, 32,040 (Aug. 23, 1988).) Wolverine Power Corporation may pay the proposed penalty by submitting a cashier's check made to the order of the Federal Energy Regulatory Commission and mailed to the Secretary at the following address:

Federal Energy Regulatory Commission
Office of the Secretary
825 North Capitol Street, NE
Washington, DC 20426

Payment of the proposed penalty will terminate this proceeding.

By direction of the Commission.

Commissioner Trabandt adheres to his position in Order No. 502, Procedures for the Assessment of Civil Penalties under §31 of the Federal Power Act, that the Commission lacks authority to levy civil penalties against unlicensed hydroelectric projects. Thus, he believes that the Commission's only legal option is to direct Enforcement to seek injunctive relief against Wolverine at this time. In addition, he does not believe factors one and two accurately articulate the statutory standards for determining the amount of the penalty. However, he concurs that if the Commission had jurisdiction to issue a Notice of Proposed Civil Penalty here and under the proper criteria, $2000 per day is an appropriate amount to assess against the Company in these circumstances.

(S E A L)

Lois D. Cashell

Lois D. Cashell,
Secretary.

Senator **Bradley**. Thank you very much, Mr. Trabandt. We will have a time limit on testimony, no longer than ten minutes per witness.

We are now engaged in a vote on the floor, so I am going to put the subcommittee in recess until the vote is completed and we return to deliberations.

[Recess.]

STATEMENT OF HON. DALE BUMPERS, U.S. SENATOR FROM ARKANSAS

Senator **Bumpers** [presiding]. I want to apologize to all the witnesses and the spectators for the confusion this morning. I thought we had a vote at 10; as a matter of fact, we killed eight people getting to work to make the 10 o'clock vote, only to find that their Senators had other ideas. I wanted to vote first so that we would not be interrupted in this hearing. Happily, Senator Bradley was here to conduct the hearing.

I will insert my statement on the record. I have been just briefly briefed on what the previous Commissioners have testified to. Betsy, we are pleased to have you back in this familiar haunt, and are anxious to hear from you.

[The prepared statement of Senator Bumpers follows:]

STATEMENT OF SENATOR DALE BUMPERS

Oversight Hearing on Hydroelectric Power
Subcommittee on Water and Power
September 28, 1989

Good morning. I want to thank Senator Bradley for scheduling this oversight hearing today. The purpose of today's hearing is -- to recognize the contribution of hydroelectric power to our domestic energy supply, to discuss the potential for additional hydroelectric power supplies, to discuss the environmental costs and benefits of hydroelectricity compared to other energy sources, and to review the current licensing and relicensing process for hydro projects.

Those of us responsible for developing national and international energy policy have become increasingly aware of the importance of the environmental impacts of various energy sources. A week ago The New York Times carried an article with the headline: "Environment Dominates 91-Nation Energy Talks" --

> "Montreal September 20 -- In a striking shift of focus, the 3400 delegates gathered here from 91 countries to discuss the world energy picture have one dominant concern: the environment. Price and supply, the traditional focus of energy suppliers, have almost been squeezed of the agenda....the worry at this triennial event has shifted from oil embargoes and declining reserves of fossil fuels to urban smog, acid rain and above all, global warming."

The article is right on target. I would add to the Times' list of major environmental/ energy concerns -- toxic air pollution, and solid waste disposal problems including disposal of nuclear and hazardous waste. In the context of these major global environmental problems, hydroelectricity looks very attractive to me. It one of the cleanest power sources we have, producing neither air pollution nor waste products. It is renewable energy and some of the most economical power produced on many utility systems. For all these reasons, I view our hydroelectric projects as valuable assets in our energy supply picture.

According to the Federal Energy Regulatory Commission, hydro projects comprise 13.3% of domestic generating capacity. I have seen varying estimates of the potential for future hydro development and I am particularly interested in hearing today about the potential for development at existing dams. My knowledge of the successful retrofits of some of the Corps of Engineers dams in Arkansas leads me to believe that there are similar opportunities elsewhere.

I am of course well aware that hydroelectric projects can have detrimental impacts on the environment immediately impacted by the facility. I am a strong supporter of preserving outstanding rivers and streams in their natural conditions under the Wild and Scenic Rivers system. . I was also a conferee on the Electric Consumers Protection Act in 1985 and recall that many of us were concerned that the Federal Energy Regulatory Commission had not paid adequate attention to the impacts of hydro projects on fish and wildlife resources in every licensing case. In response to that concern, the conferees amended the Federal Power Act, requiring FERC to give "equal consideration" (but not necessarily "equal treatment") to fish and wildlife protection, energy-conservation and other environmental concerns. In addition, license conditions proposed by state and federal fish and wildlife agencies must be adopted by the FERC unless specific findings are made. These amendments were intended to establish a more balanced licensing process, and I supported them wholeheartedly.

However, in my discussions of the current status of hydro power with project owners and developers, I have heard reports that rather than establishing a balanced licensing process, ECPA (or the FERC's implementation of ECPA) may have pushed the pendulum too far in the other direction. Under ECPA, the Commission is specifically required to give special deference to the recommendations of state and federal fish and wildlife agencies with respect to license conditions. Those agencies, however, are not required to consider power values or other economic impacts in making their recommendations. The Commission has the responsibility to balance these concerns in its determination of the public interest.

FERC faces a tremendous workload of relicensing applications - 169 hydro project licenses will expire at the end of 1993. The potential for the issuance of new licenses with conditions which substantially reduce the power production capabilities and economic viability of these projects is a major concern of the hydroelectric industry. And if industry's fears are well founded, the potential loss of clean renewable energy sources should be of concern to all of us. I hope that we will be able to explore these and other licensing policy issues in more detail during the course of this hearing.

STATEMENT OF HON. ELIZABETH ANNE MOLER, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION

Ms. Moler. Thank you very much and good morning. I appreciate this opportunity to present my views on whether ECPA's environmental review process works to give us licensing decisions that are in the overall public interest.

I believe that it does. There are strong indications that we will soon be facing a pressing need for additional electric generating capacity. Hydropower will play a key role in meeting this need. With the growing concern over the environmental impact of fossil fuels, hydropower provides an important power generation alternative.

ECPA adds new requirements to the Federal Power Act. It is basically a procedural statute. That statute now makes clear that hydropower cannot be developed without a full consideration of its particular impact upon the environment. And, with the potential for a 50 year license term, that impact is always far-reaching.

I believe, overall, FERC has done a good job in implementing ECPA. During my past 12 months with the Commission, I have seen us resolve important issues. We have completed our rule-making to implement the Commission's new enforcement authority, and we have exercised that authority.

We have acted on several licenses, most recently, the 16 licenses issued in the Ohio River Basin, while giving the "equal consideration" required to non-power values. We have issued our relicensing rules, and in doing so, we have expanded our procedures to ensure that the public has a meaningful opportunity to participate in these proceedings.

More remains to be done. In particular, I would hope that the Commission can soon act on the pending petitions for re-hearing of our relicensing rules. This is necessary so that our rule-making will be complete, well in time to meet the large volume of relicensing applications we soon expect. And I believe that it is important for the Commission to fully implement its new responsibilities under the agency coordination provisions of section 10(j). I hope that we will have the notice of proposed rule-making for this issue before us shortly.

These generic proceedings will allow all interested groups, the state and federal wildlife agencies, developers, and the general public to help us resolve how best to implement section 10(j).

My written testimony responds to these issues in more detail. I will be pleased to respond to any questions you may have.

Thank you.

[The prepared statement of Ms. Moler follows:]

Testimony of Elizabeth Anne Moler
Member of the Federal Energy Regulatory Commission
Before the Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Oversight Hearing on Hydroelectric Licensing
September 28, 1989

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Mr. Chairman and Members of the Subcommittee:

I welcome this opportunity to appear before the Subcommittee.

You have asked for the Commissioners' views on the role of hydropower in the Nation's electric supply mix and how the existing licensing regime affects hydroelectric development. In particular, you ask whether the environmental review process created by the Electric Consumers Protection Act of 1986 (ECPA), as implemented, is producing licensing decisions that are in the overall public interest.

First, hydropower is clearly an important element in the Nation's energy supply mix. Second, I believe that the environmental review process created by ECPA, which the Commission is still developing in important particulars, does produce licensing decisions that are in the overall public interest.

There are strong indications that we will shortly be facing a pressing need for additional electric power generation in some regions of the country. We were remarkably lucky this past summer in certain regions of the country that our electric utility industry was not seriously challenged by the weather and that utility generators operated at peak capacity without outages. We cannot count on that luck continuing. A hotter summer, such as we had in 1988, coupled with continuing electric power demand growth, will cause serious problems. Further, over the long-term, our country's economic growth requires a reliable electric power industry enhanced by new power generation.

Obviously, hydropower has an important role to play in meeting this need. Hydropower makes up over 10 percent of the country's total electric power capacity. As of 1988, our staff reports, we had over 70 million kilowatts of developed hydropower capacity in the country, capable of producing over 302 billion kilowatt hours annually. Theoretically, 76.1 million kilowatts more, with a corresponding average annual energy generation capability of 232.6 billion kilowatt hours, could be developed. With the growing concern over acid rain and global warming, this capacity -- realized and potential -- provides an important electric power generation source.

As ECPA makes clear, however, hydropower cannot and should not be developed or maintained without considering its impact on the environment.

With ECPA, Congress requires that, in licensing hydropower projects, the Commission must

> give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality....

in addition to the power and development purposes. As the Conference Report makes clear, ECPA marks a significant change for how the Commission should do business:

> The provisions are adopted with a view of not merely codifying existing practice at the Federal Energy Regulatory Commission (FERC) under these sections [4(e) and 10 of the Power Act] but to change and improve it.

In a much celebrated case, the United States Court of Appeals recently observed with less charity,

> [o]ne of the key objectives of ECPA was to remedy FERC's 'less than satisfactory' history of according environmental factors less weight than power production concerns in licensing.

Platte River Whooping Crane v. FERC, 876 F.2d 109, 117 (D.C. Cir. 1989).

In the main, I believe that FERC has done a good job in implementing these changes. Considerably more, however, remains to be done in each of the critical areas changed by ECPA:

licensing and relicensing, enforcement, and the Commission's increased obligation to coordinate its efforts with state and federal agencies. Let me be more specific.

Licensing and Relicensing

In May we put into place the Commission's Final Rule Providing for Hydroelectric Relicensing Regulations: Order No. 513. Requests for rehearing are pending; I hope we will act on them soon. The importance of this rule cannot be overemphasized. It provides not only the standards the Commission will use in relicensing, but also the procedures that will ensure full and informed public participation in the relicensing decision.

I am pleased to note that, for the first time, the public will be allowed to attend and participate in pre-filing consultation meetings. These procedures, to be sure, will not make the relicensing process any easier or efficient. But, as the Final Rule properly recognizes, allowing the public to participate in consultation will allow issues to be identified earlier in the process and will ensure that license applicants, "actively seek out the views of local residents and other interested persons, afford them an opportunity to express those views, and provide meaningful information on the relicensing process."

The relicensing rule is critically important. Between now and the end of 1993, the Commission will be facing over 200 relicensing cases, with the great majority coming due in 1993.

Case-by-case Decisions

In addition to Order No. 513, the Commission has proceeded case-by-case to award initial licenses under ECPA and to relicense projects. Since joining the Commission 12 months ago, I have participated in several of these cases. Each time, the Commission is required by statute to balance, or to give "equal consideration" to both power and non-power values, including fish and wildlife enhancement measures and energy conservation.

Enforcement

The Commission has been given important new authority under ECPA to assess civil penalties. With Order Nos. 502 and 502-A, the latter in which I participated, the Commission issued its rules implementing this new provision. One of the more controversial aspects of the rule is whether the Commission's enforcement authority extends to projects which have not yet been licensed. In my view, as the majority in Order No. 502-A held, the Commission has such authority.

The strength of that view has been amply demonstrated in recent proceedings in which the Commission has had to invoke its new enforcement authority to meet the continued -- indeed flagrant -- violations of its authority.

The enforcement authority provides an important tool to use in meeting our responsibility to enforce the environmental protection measures of ECPA and the Federal Power Act.

Increased Coordination Between FERC and State and Federal Agencies

With ECPA, under section 10(a), the Commission must now consider state and federal comprehensive plans for dealing with waterways in reaching licensing decisions. Section 10(a) also requires greater coordination between the Commission and other federal agencies that have environmental interests, including the U.S. Fish and Wildlife Service, the Forest Service and the National Marine Fisheries Service. And with section 10(j), Congress imposed a procedure to ensure that the Commission gives proper consideration to state and federal recommendations made under the Fish and Wildlife Coordination Act.

Clearly, the most troublesome aspect of these requirements has been developing procedures under Section 10(j). At the outset, it bears mentioning that upwards of 95% of state and federal agency recommendations made to the Commission have been adopted in the licenses we have issued. This is a source of pride to some, and a source of great irritation to others who disagree with the statutory mandate. Our task is to provide the means whereby agencies, on the one hand, may be assured of the Commission's proper actions under section 10(j), while project developers, on the other hand, do not see their proceedings unduly delayed. If we accept an agency recommendation, that is the end of the inquiry. If we reject it, we must try to resolve our differences with the other agency and, if we fail to do so, we must explain why.

Clearly, the Commission must be sensitive to the state and federal agency interests under Section 10(j). The full implementation of the Commission's 10(j) procedures must, however, await generic rulemaking. I would hope that we will very shortly have the kick-off NOPR for this rulemaking before us.

Finally, I cannot leave this topic without mentioning the Commission's recent decision to license 16 projects in the Ohio Basin. With these licenses, the Commission did impose substantial environmental terms and conditions. And we turned down 4 applications for 3 different sites because we judged the impact of those applications to be unacceptable. But for those we did license, the rate of return are estimated to be from 9 to 17.4 percent over the 50 year license term even with environmental compliance factored in. This decision is, I believe, a paradigm example of how the licensing process can and should work. With these orders the Commission demonstrated the careful balancing of the power and environmental concerns which Congress demands. At the same time, in its consideration of the various recommendations put forward by the states involved -- Ohio, Pennsylvania, and West Virginia -- the Commission, properly in my view, struck the required balance between power development and environmental protection.

I cannot pretend our mandate is crystal clear. Nor can I assure you that developers, or environmentalists, will like the job we do. Our procedures are cumbersome and slow. I can say that I am very aware of the conflicts between, and among, those who participate in our process.

With ECPA, Congress did not give the Commission answers. Instead, the Commission received a new mandate to act in the public interest and to weigh and balance a number of disparate factors and interests. That is the job the Congress gave us. The next 12 months are critical in establishing how we will act under this new mandate.

Senator **Bumpers**. Thank you, Betsy.

Mr. Langdon.

STATEMENT OF HON. JERRY J. LANGDON, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION

Mr. **Langdon**. I would like to join my colleagues in thanking you for the invitation to appear before the subcommittee this morning and also for your interest in this hydro oversight hearing.

As you know, the Commission will be facing a large number of applications for relicensing in the next few years in addition to our normal workload of processing licenses. In meeting this responsibility, we must exercise our best judgment in balancing the many legitimate environmental, business and other public interests that compete with one another in varying degrees, such as protection, mitigation and enhancement of fish and wildlife, recreation, the production of power that does not pollute the air, and other environmental concerns. Each project is different, offering different benefits and raising different problems.

I have no pre-determined biases in favor of any one of the many values or interests involved. I hope, of course, that compromises can be reached. And, in many cases, in many of these proceedings, that all the participants will be able to live with. But, that is not always possible.

After listening carefully to what each participant has to say, and carefully examining the record in each case, we, this Commission, will have to make some hard choices—choices in accordance with the law.

Our rivers are a significant resource that can, and should, in many cases, be developed in the context of their renewable energy value. Similarly, our rivers represent one of the nation's most fragile environmental resources. The economic and social values of these rivers cannot be ignored. There is no simple formula for coming up with a perfect balance of these values. For this reason, deciding how to use our rivers to best serve the public interest is one of the most challenging jobs the Commission faces, and at the same time, one of the most interesting.

I look forward to your questions. Thank you very much for this opportunity.

[The prepared statement of Mr. Langdon follows:]

SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES

SUBCOMMITTEE ON WATER AND POWER

OVERSIGHT HEARING ON IMPLEMENTATION OF ELECTRIC CONSUMERS PROTECTION ACT

September 28, 1989

OPENING STATEMENT OF COMMISSIONER JERRY J. LANGDON FEDERAL ENERGY REGULATORY COMMISSION

Good morning, Mr. Chairman and members of the Committee. I would like to thank you for the invitation to appear before the Subcommittee.

As you know, the Commission will be facing a large number of applications for relicensing in the next few years in addition to our normal workload of processing licenses. In meeting this responsibility, we must exercise our best judgment in balancing the many legitimate environmental, business and other public interests that compete with one another in varying degrees, such as the protection, mitigation, and enhancement of fish and wildlife; recreation; the production of power that does not pollute the air; and other environmental concerns. Each project is different, offering different benefits and raising different problems. I have no predetermined bias in favor of any one of the many values or interests involved. I hope, of course, that compromises can be reached in many of these proceedings that all the participants will be able to live with. But that is not always possible, and after listening carefully to what each participant has to say, and carefully examining the record in each case, we will have to make some hard choices in accordance with the law.

Our rivers are a significant resource that can and should in many cases be developed in the context of their renewable energy value. Similarly, our rivers represent one of the nation's most fragile environmental resources, the future economic and social values of which cannot be ignored. There is no simple formula for coming up with a perfect balancing of these values. For this reason, deciding how to use our rivers to best serve the public interest is one of the most challenging jobs the Commission faces -- and at the same time, one of the most interesting.

Senator **Bumpers**. Thank you very much. Betsy, in your testimony—has everybody testified now, all the Commissioners testified?

I note in your testimony, that FERC has recently turned down four license applications at three sites because of unacceptable environmental impacts. How does the Commission decide whether it is acceptable or not acceptable?

Ms. **Moler**. The statute requires——

Senator **Bumpers**. Give me a general overview of how you make that decision.

Ms. **Moler**. Well, in this particular instance, the Commission prepared an environmental impact statement. It was a river basinwide environmental impact statement. It evaluated the impacts project-by-project of the pending applications on the Ohio River for Pennsylvania, Ohio and West Virginia. In each instance the Commission staff, with the help of the Oak Ridge National Labs, which did a major model of the Ohio River, assessed how the various projects, if constructed, would impact one another and how they would impact the river.

The licenses we turned down were judged—and that is ultimately what it is, a judgment call—were judged to have an unacceptable impact for particular environmental reasons that were reviewed——

Senator **Bumpers**. Do you remember what that particular reason was?

Ms. **Moler**. In one particular instance there was a state fisheries resource that would have been inundated, taken out of commission. Excuse me, it was a recreational resource that would have been taken out of commission if the project had been built.

In two other instances, the projects we turned down would have ruined the progress that has been made in cleaning up the Ohio River and in restoring the fishery, because they would have had a significant impact on the dissolved oxygen that is available in the river, which is, of course, basic to the existence of the fish. That was because of the particular type of dam structure and hydrostructure that was proposed.

Senator **Bumpers**. Is there a difference in the oxygen content of a lake and a running stream?

Ms. **Moler**. There are even differences in the oxygen content at various places within the stream and on the lake.

Senator **Bumpers**. Are those scientifically—can you make scientific determinations on those things?

Ms. **Moler**. One can make—there is a measure of dissolved oxygen that one can use and there are scientific fishery resource people who are capable of telling you how much dissolved oxygen is necessary for particular fish survival. Yes, sir.

Senator **Bumpers**. Have you gotten into any endangered species problems?

Ms. **Moler**. Yes. In that particular instance, there was a mollusk, a pearly mollusk that is on the endangered list.

Senator **Bumpers**. Fat pocketbook pearly mussel?

Ms. **Moler**. Pink mussel. Yes, sir.

Senator **Bumpers**. You laugh. It is a big problem in my state. We have a big project down there that has been stymied for years over the fat pocketbook pearly mussel, I guess that is it.

Ms. MOLER. On this particular instance, I believe it was the pink mussel. They must be cousins.

Senator BUMPERS. Well, they are causing a hell of a lot of problems——

Ms. MOLER. And, under the Endangered Species Act, we have to—we are required by statute to take that into account, when they are listed.

Senator BUMPERS. The staff at FERC responded to some pre-hearing questions and indicated that EPRI is working on a methodology for equating developmental and non-developmental values.

Chairman Hesse, what is that methodology. And, if you do not want to answer that, we would be happy to take a written response on it.

Ms. HESSE. We will supply that for the record.

[The information follows:]

EPRI METHODOLOGY FOR
BALANCING POWER AND
NONPOWER VALUES OF
HYDROELECTRIC PROJECTS

EXECUTIVE SUMMARY

This summary describes the balancing methodology developed by Decision Focus Inc. (DFI) for EPRI. The methodology provides values of alternate scenarios and compares their net benefits relative to the status quo. The balancing methodology involves six steps: scenario identification, characterization of power and non-power resources, quantification of power and non-power resources, scenario evaluation, evaluation of assumptions, and probabilistic analysis.

SCENARIO IDENTIFICATION

The first step in the balancing process is to identify a set of scenarios to be evaluated. Clearly, the number of relicensing scenarios to be evaluated will be project-dependent. A relicensing scenario should represent a potential combination of outcomes on license conditions and project ownership, if competition is a possibility. For example, a relicensing scenario could be changing from run-of-river to peaking operation, providing a minimum flow as requested by a resource agency, or FERC awarding the project to a competitor. Strategies that are not necessarily in the utility's best interest should be evaluated to determine to what extent they affect the project's value.

CHARACTERIZATION OF POWER AND NON-POWER RESOURCES

For each scenario, it is necessary to identify and describe the power and non-power resources that will be affected. Typically, a scenario will impact both power resources, such as energy produced, and non-power resources, such as whitewater rafting. Figures 1 and 2 illustrate the potential scope of the analysis in terms of power and non-power resources. Moreover, it is important to consider a broad range of resources to be prepared for concerns expressed by agencies, FERC, or intervenors.

QUANTIFICATION OF POWER AND NON-POWER RESOURCES

The quantification of power and non-power resources is the crux of the balancing process. Consider the pie chart in Figure 3. It shows how a hydroelectric project's value is made up of its power and non-power resource values. If these values take into account all those affected by the project, then the total value represents the project's value to society. The relicensing scenario producing the largest pie (i.e., the largest total value) is the scenario best adapted to the public interest. In order to determine the total value of the power and non-power resources, it is necessary to represent the value of each resource in some common unit, usually money.

Note that not all resources will be affected by the scenarios under consideration. For example, the operating and maintenance costs for a hydro facility may be constant across all the scenarios. Instead of attempting to evaluate all costs and benefits associated with each scenario, the approach developed by DFI evaluates only those costs and benefits that change relative to the status quo. On the one hand, this approach significantly reduces the complexity of the analysis by focusing only on those resources that are differentially affected by the strategies under consideration. On the other hand the value of a scenario is meaningful only relative to the value of the status quo scenario.

SCENARIO EVALUATION

In the scenario evaluation, a model is built that integrates each scenario's impacts on the power and non-power resources with dollar values of those resources. The model calculates the total value of the power and non-power resources affected by each scenario. The model calculates the difference between the value of each scenario and that of the status quo, and then ranks the scenarios relative to the status quo. The preferred scenario will be the one producing the largest net benefit relative to the status quo.

EVALUATION OF ASSUMPTIONS

By applying the balancing methodology, the utility can determine the impact of agency requests, or other possible relicensing scenarios, on project value. The utility can also determine whether better information should be gathered to improve the various assumptions used in the scenario evaluation. By varying each assumption through a wide range of values, and re-evaluating the scenarios in each case, the utility can determine how certain assumptions would have to change before the preferred scenario would change. Depending on the reasonableness of these changes, the utility can decide which assumptions should be studied further. If only a very extreme and unlikely assumption causes the preferred scenario to change, then the utility may feel comfortable with the assumption used in the base case analysis. If a slight and easily imaginable change in an assumption causes the preferred scenario to change, then the utility may want to study the basis for this assumption in more detail, carrying out a probabilistic analysis and determining the value of gathering more information.

PROBABILISTIC ANALYSIS

Given that the important assumptions are determined , the analysis can treat them probabilistically. A probability distribution must be assessed for each assumption to reflect the likelihood that the assumption will take on different values. This distribution can be estimated based on available data or through an expert elicitation process.

The analysis then re-evaluates each scenario using the technique of decision analysis to handle the uncertainties now present. This process may result in a new scenario having the highest value. Once this calculation has been done, it is possible to calculate an upper bound on the value of gathering more information on any uncertainty. This allows a utility to cost-effectively prioritize future studies.

Equal Consideration

... This Means that Non-Power Impacts Must Be Considered in Evaluating Relicensing:

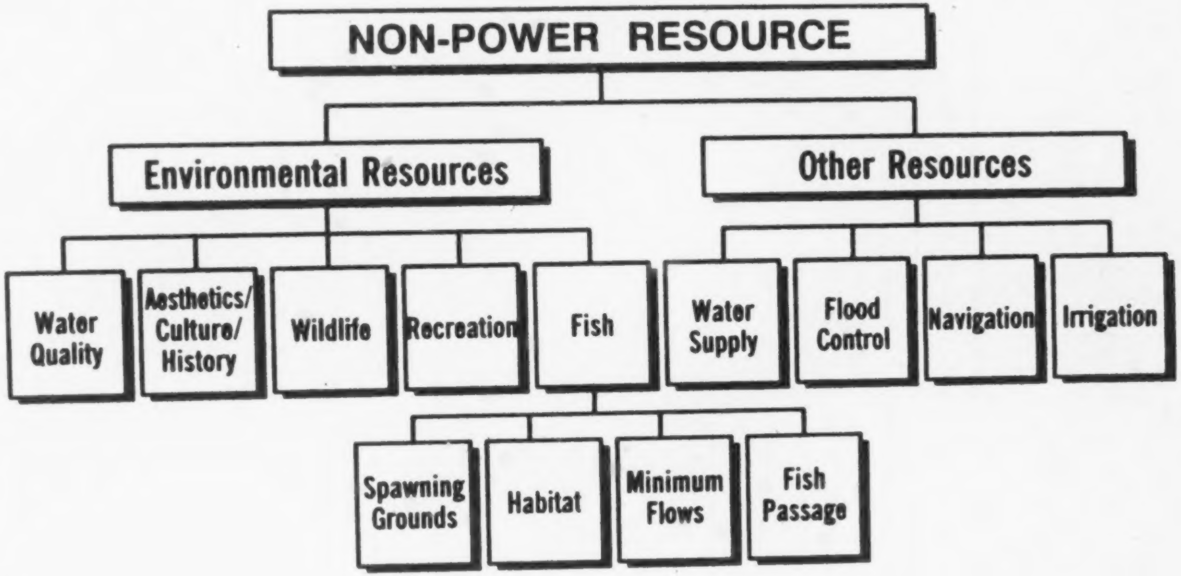
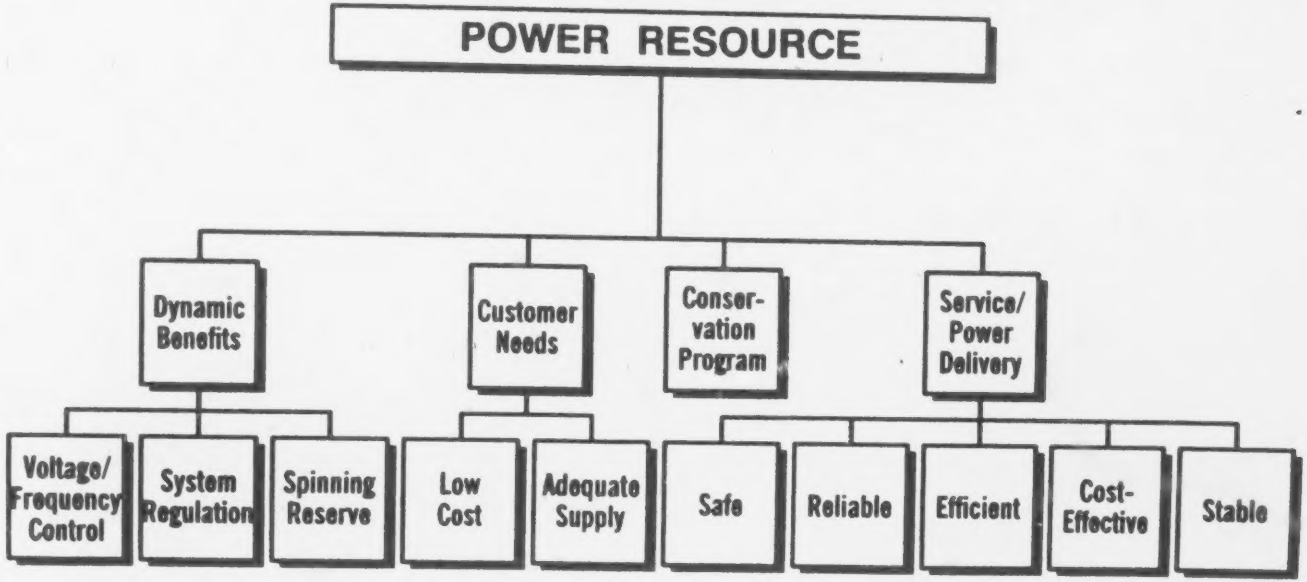

NON-POWER RESOURCE
Environmental Resources
Other Resources
Water Quality
Aesthetics/ Culture/ History
Wildlife
Recreation
Fish
Water Supply
Flood Control
Navigation
Irrigation
Spawning Grounds
Habitat
Minimum Flows
Fish Passage

Figure 1

Equal Consideration

... In Addition, a Number of Power Values Must Be Considered as Well:



POWER RESOURCE

- Dynamic Benefits
  - Voltage/ Frequency Control
  - System Regulation
  - Spinning Reserve
- Customer Needs
  - Low Cost
  - Adequate Supply
- Conser-vation Program
- Service/ Power Delivery
  - Safe
  - Reliable
  - Efficient
  - Cost-Effective
  - Stable

Figure 2

Sharing the Hydro Resource Pie

The Balancing of Power and Non-Power Values Determines How the Hydro Pie is Shared Among Competing Uses:

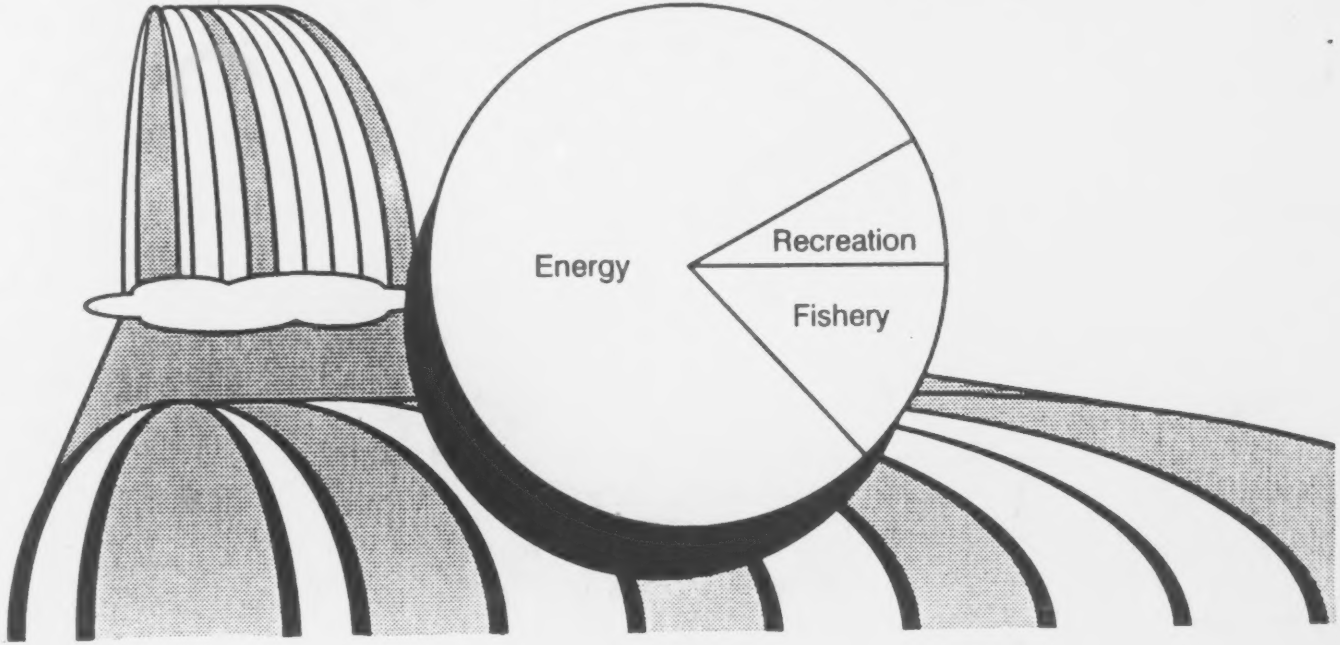

Energy
Recreation
Fishery

Figure 3

Senator **Bumpers**. We hear a lot of talk about the licensing process burden. As a matter of fact, that is—the Hydropower Association this morning is going to stress more than anything else the burdensome procedures of relicensing. I do not know whether FERC places these procedures on them, or the law. I assume it is a combination of laws, rules and regulations that are causing this. But, let us assume that no law has changed and that you have to continue the licensing and relicensing procedures just as you have in the past.

Chuck—no, I should ask you this, Chairman Hesse—do you have the staff to deal with this mountain of relicensing that you are going to be confronted with in a year?

Ms. **Hesse**. Mr. Chairman, we start receiving the applications soon. And, they will peak in 1993.

Senator **Bumpers**. I am sorry——

Ms. **Hesse**. The applications for relicensing—we will start to receive those soon and they peak, I think, in 1993. And, we will have some spikes, if you will, that we have to take into consideration and plan for. At the present time, we think that if we have appropriate procedures, that we will, in fact, be able to process the applications for relicensing without significant increases in staff. This may mean that we will have to grant some temporary or some annual licenses on a short-term basis so that we can, in fact, in an orderly fashion, process all the applications.

Senator **Bumpers**. Does it hurt you to talk? Does it bother you to talk, you have——

Ms. **Hesse**. It does.

Senator **Burns**. Fatal disease for you and I, you know?

Senator **Bumpers**. Would that more of my colleagues have that problem.

Ms. **Hesse**. Mine, too.

Senator **Bumpers**. The other thing that the people in this business—and, let me say that I am a pretty strong hydropower proponent, just as I am of all alternative energy sources—I am a proponent of all alternative energy sources, including solar and biomass. But I think hydro holds the potential for some immediate electricity generation alternatives to traditional fossil fuel burning plants.

But, Chairman Hesse, I will ask someone else to answer the question, but you noted in your testimony that FERC currently accepts 95 percent of agency fish and wildlife recommendations. If you reject 5 percent, what grounds do you use, Chuck, to reject the other 5 percent? Do you know? What is the traditional thing that wildlife and fish associations send you and their statements and comments on these things that you would discard?

Mr. **Trabandt**. Perhaps the most significant source of disagreement among the issues is the minimum flow that a project must maintain. We constantly receive recommendations from state and federal agencies, as well as outside parties, for higher minimum flows than our staff, in many cases, believe are necessary to protect the resource. And, those higher minimum flows often affect, quite negatively, the economics of the projects. Much of the debate that we have had about recommendations that we have not accepted, is on that particular issue. I made mention of one that is now quite celebrated. You will hear more about, in later testimony, the Henwood project. Where California——

Senator **Bumpers**. That is in California?

Mr. **Trabandt**. The Henwood project. A California agency recommended a higher minimum stream flow under the ECPA procedures. Our staff determined that it would render the project uneconomic. We adopted a lower minimum stream flow, which at the same time, we were satisfied would maintain the fisheries resource.

Subsequently, we re-opened that issue because of complaints that we had not satisfied ECPA. I think of all the potential criticisms, that is the one that is most prevalent. And, those are the areas, I think, where it goes to the heart of the balance between power development and the project's successfully going forward and the resource consideration on the other side.

Senator **Bumpers**. Let me just say to all of you and we will conclude with this and allow any of you who wish, to comment—we are talking about a balancing of the need for power, and the desirability of hydro as a clean source of power against the environmental concerns, especially those raised by fish and wildlife groups. And, we are concerned about the licensing procedures and whether or not they are unnecessarily burdensome and lengthy.

And, if any of you hang around, you are getting ready to see a flow chart here—I am sure you have seen them before—of all the hoops that one must jump through to get a license or be relicensed; and whether that is just too much or not. But, my real concern is, and we always start defending ourselves, I guess, I feel that my environmental record in the Congress is about as close to perfect as you can get, even with environmental groups, and especially with fish and wildlife groups.

By the same token, when these groups are commenting, they come from a very, very single issue position. That is the preservation of fish and wildlife. That is perfectly okay. I do not have any quarrel with that. But, I must say that I think there are probably projects in the country where the damage, if any, is de minimus.

And, my question is, how does the Commission balance that out? When you consider the fact that most of the comments you get on a hydroproject are from people who are concerned about aquatic life in that stream, how do you make a balanced decision, when they are coming from just one position. You really are about the only person, other than the applicant, who has to consider the needs of the nation as far as power is concerned, and the cleanliness of the power. How do you balance that?

Mr. **Stalon**. Mr. Chairman, I would like to try an answer to that. I will not promise it is a satisfactory answer.

The basic problem was well-recognized in the opening statement of Senator Bradley. The Commission is being asked to compare, essentially, things that are not commensurable. It is the apples and oranges problem multiplied many, many fold. This is an agency that traditionally has dealt with, what I would call, commensurables. Almost everything it deals with in the gas and electric side can be reduced to dollar values recorded in accounts. The accounts can be aggregated. They can be compared. They can be manipulated statistically, however.

But, in the area of environmental trade-offs, we are being asked to evaluate whether an incremental eagle is worth a half-megawatt of power.

There are two solutions to this problem, and I put quotation marks around solution.

One, I would call the substantive solution. That is. to try to develop measures of these incommensurable objects. Try to figure out the value to be assigned to an incremental eagle and make the comparison among commensurable objects. In short, calculate benefit cost ratios. I will come back to that in a moment, but I will leave with one story.

I was touring a river in California and was informed that the stream flow was being increased substantially at the request of the California Game Commission. It had requested a substantial increase in the population of trout. And, the purpose for increasing the population of trout was to increase the population of eagles.

My first question was, what is the cost of an incremental eagle? Not merely did I not get an answer, I was lectured explicitly that that is an irrelevant question for the utility. We do not make——

Senator BUMPERS. Who lectured you on that, Commissioner Stalon?

Mr. STALON. Sir?

Senator BUMPERS. Who lectured you on that?

Mr. STALON. The—well, lecture is a little strong—polite lecture. It was the tour guide who was making it very clear that they do not question the challenges and orders of the California Game Commission. When the Game Commission says march, they march. When they are told to produce additional eagles, they produce additional eagles. They do not calculate the trade-off.

So, I did not get my answer. I got a similar response when I asked the cost of an incremental pound of salmon on the Columbia River. I was told that BPA could calculate the electricity loss, but it was not a normal part of their record-keeping.

So, that route is there. We could pursue it. I would urge that we pursue it. But, I would call attention that ECPA did not take that route. ECPA took what I call the procedural route to solving this problem: not to develop commensurability, but to try to bring in many, many different parties, all the parties of interest, and have them "negotiate a solution."

Consequently, negotiation has become a principal instrument in the decision-making of hydro-electric environmental impacts today. And that has two very important consequences for the Commission.

One is, it expands the workload for the Commissioners substantially. And second is, it to some extent removes the Commission from the decision process, because, once the staff has negotiated with state agencies, with private agencies, with federal agencies, and the parties have reached a solution, it is by that time the end of a long, involved, complex process. And, when the solution, the agreed-upon solution is presented to the Commissioners, it is very difficult for them to reject it.

As an economist who has spent much of his life trying to compare incommensurables, I am very much aware of the distinction between the expertise involved and the value judgments involved. True, the expert can tell us how much dissolved oxygen is in the water. The expert can tell us how much dissolved oxygen is necessary to support catfish versus trout. He cannot tell us the value of an incremental pound of trout.

What is happening, however, in these negotiations, is that value judgments are being made. They are not, however, being highlighted. They are not being emphasized. We are not being told precisely what trade-offs have been made. Normally, you can deduce, given sufficient information, the actual value assigned to a pound of trout if you can diagnose the data thoroughly.

My argument would be, in summary, that we are committed by ECPA to a negotiation approach. It is inevitable in a negotiation approach, given the Government in Sunshine Act; the Administrative Procedures Act and the inability of Commissioners to be involved in that negotiation, to be committed, I think, to a very long, tedious process that will lead to something which, in other processes, we would call settlements, that we commissioners will end up endorsing, never fully aware of the trade-offs that have actually been made.

I do not see any solution for this other than pressing hard to develop commensurability in every dimension where commensurability can be developed.

But, that was not the approach taken by ECPA.

I thank you.

Senator BUMPERS. Somebody must have leaked the question before today's hearing.

Mr. TRABANDT. Can I try a different approach, Mr. Chairman?

As my summary statement tried to argue, and I sense you would agree, or I would agree with you, a viable hydroelectric option is critical for the United States going into the next century. That it seems to me, should be a given. Hydroelectric power that is subject to our licensing, and I included the most important number in my statement, can have a substantial positive impact on our energy mix at a time when it seems to be absolutely clear that we need all we can get. I would say that we are going to need every megawatt of responsible hydro development after the year 2000 that we can get.

I think that the mistake that is being made today is how to strike the balance. And it is not one of, I think, mistaken intentions, but I think it is a mistake in judgment. I think that the burden that we ought to bear under ECPA is that we should not render a project uneconomic. And, we should not reject a project for the fish and wildlife resource values, or the aesthetic values. We actually rejected a project, because it was not going to look so nice.

Senator BUMPERS. I do not have any quarrel with that, either.

Mr. TRABANDT. But, we should not reject it, unless the resource is truly significant and truly critical. I think that the problem we are running into now is—Commissioner Stalon calls it a negotiating process—that we do not approach the problem with that priority in mind. What we do is go through a much more analytical process and there are trade-offs, negotiations and equal consideration is rapidly becoming equal treatment for resource values, even if projects are rejected or rendered uneconomic as a result.

Equal consideration has become unequal treatment for power in some situations. And, we are subordinating the hydroelectric potential to those other values. I would say, and I do not suggest this as criticism at all, but we get an awful lot of help on this issue from your colleagues in the House who have very strong views. Some of whom, including our mutual good friend, the chairman of the committee, who have very strong views about fish and wildlife and have pressed the Commission very hard to increase, over time, the priority that we give to those values. I do not mean to suggest that there is not importance attached, also, to the hydroelectric potential.

But, we have, I think, in fairness, responded by shifting our priorities in some sense. And, I have, in letters to the distinguished chairman, and in statements I have made before his committee, argued that I think that is probably a mistake. I think we ought to stand on the ground of proceeding with hydroelectric development wherever we can.

I think, in a nutshell, that is perhaps the debate that we have on many of these projects and the disagreements. In the Ohio River, for example, emphasis can be placed on the fact that we licensed 16 and we only rejected three. I think the emphasis should be placed on why did we reject the three? In each case, I think, it's probably questionable judgment as to why they were rejected rather than allowed to go forward. What we were presented with were alternatives. One alternative was no development. Another alternative was license all 19. This was somewhat of a compromise, given the pressures from the state and the pressures that we had from interested Members of Congress.

Senator **Bumpers**. Chuck, one of the things that troubles me is, for example, when you rejected the three, and I do not want to get into a debate—I am sure that was a detailed, lengthy debate.

But, there is also another point that needs to be made and that is, the environmentalists ought to ask themselves, how is the utility that planned to build those three dams going to replace that power? And the answer probably is going to be, they are going to replace it with fossil fuel generation. And, that is a pretty serious trade-off as far as I am concerned.

You would have to weight heavily in favor of fish and stream viability, and so on, in order to justify the loss there. The degradation of the stream would have to be pretty severe before I would say, I do not want you to build this hydro facility, I want you to go over here and build a coal-fired plant, or even a nuclear plant, for that matter.

So, let me just close because we have got a long list of witnesses coming up. But, I wanted to say that one of the reasons we are holding this hearing this morning is number one, to see if we cannot streamline these procedures. And, number two, Chairman Hesse, is to make sure you have the staff if you are not going to streamline it to some extent, or try to move the timetables in a much more expeditious way, then you need more staff to do it.

I want to make sure that if you need more staff, we will try to get them for you. Because these delays—they are just interminable, this process you have to go through.

Number three, I was a conferee on the Electric Consumers Protection Act in 1985. The environmentalists and the conservationists were deeply concerned about degradation of streams and fish life and aquatic life and so on. And, that is where we put in language that you must give equal consideration to the recommendations of resource agencies. But, the point that I want to emphasize is we did not say equal treatment.

I want to make sure we are not sending you the wrong message. We want the streams protected, but we want to make sure that everybody understands where we are headed with power, too, and that hydropower is very clean power. I happen to be a strong proponent of it. On the Arkansas River our navigation system costs the taxpayers of this country $1.2 billion. We built 17 dams and only three of them generated power. The reason was that the IOUs had enough clout to prevent hydrodectric facilities from being built along with the navigation dams. It was considered, you know, but, there were politicians in the Congress and some from my state, I think, that thought TVA was communist-inspired.

So, now we are spending hundreds of millions dollars more retrofitting those dams than we would have had to spend to put power on them in the first place. That was one of my first priorities when I came to the Senate, was to get those dams on the Arkansas River retrofitted where the water is going through the dam and ought to have been generating power in the first place.

We are doing a pretty good job of it incidentally. We are getting those dams retrofitted. The cities are owning them. Enough of that—Senator Burns?

Senator BURNS. Thank you, Mr. Chairman.

We just received a—I have got some concern—the answers to the prewritten questions. We just now got those. So we have not had time to go through those, especially on our side over here. And that concerns me a little bit. So there were some things in there, we did not know what questions were asked and answers given. So we will be going through those.

I do not have to spend a lot of time explaining my position, for the simple reason that when it comes to protection of wildlife and fish, basically fish, that whenever you maybe disrupt the stream, we are still going to have wildlife, we are still going to have fish. Maybe a different species, but something is going to evolve, because that is the—the earth is—has been, has a history of evolution anyway.

And so I would go along with that maybe sometimes we take these rules and regulations, as Senator Bumpers has just stated, to give them equal consideration but not equal treatment. And I think sometimes when it gets down to bureaucracy, we find that sort of goes awry every now and again.

I would ask the commission to take a case study of what is happening on the Missouri River right now, as far as the treatment of inflow. And we get it from up there that most of this is for barge traffic downstream. But we have reservoirs in Montana are anywhere from 15 to 25 feet below normal or satisfactory pool. The same thing is happening in Senator Conrad's state, in North Dakota, the Garrison is way low. The Wahaila is way low. And all that water was not going.

I understand their ability to produce power is down to about 19 percent. I do not—you know, it is somewhere in that neighborhood. And those dams were put in the Missouri River for power and flood control and irrigation, because we live in a semi-arid country. Well, we have got a little snow pack in Montana for the last five or six years. We have had drought in the western part of the North Dakotas and the eastern Montana. And so when we said we always thought it was a great natural renewable resource, it was not as renewable as we thought it was.

And so I would ask the commission to take a good long look as a case study on what is happening up and down the Missouri right now, as far as the Corps of Engineers is concerned, their policy, their priorities, as far as that water use. Because we have irrigators that have their intakes 15 feet above, out of the water. And when you got a crop out there and you have no water; and I think there was a commitment by this government to those people out there, if we dam this river, if we take some of that Missouri River bottom land that was in the Dakotas, and we put it to them, and use it for a lot of other purposes, I think we have sort of gone back on our promise there.

And I know this is a very hot topic for Senator Conrad and I know it is for us in Montana, because we are a watershed state. And I am like, and I am just exactly like Senator Bumpers. I am a great proponent of water power. Even though we have a lot of coal to sell in Montana, hydropower is the cleanest, most effective, and probably least costly of any we have, and it is going to be there for a long, long time.

I—Chuck I just have a question for you. Of all these massive things that you have to go through to authorize a project, what is the single biggest thing that holds you up to deal with—the single biggest thing, and maybe it is something that we could address here in the Congress?

Mr. TRABANDT. I think that, under the new law, the single biggest problem now and even more so in the future is the relationships that we must have with the other Federal agencies and the state resource agencies, each of which have single resource responsibility, but no statutory interest in hydrodevelopment. And under the law, we are required to go through a consultation process. And that consultation process is becoming increasingly difficult. And, at this particular time, I think that probably is the variable that is most susceptible to some remedy from the Congress.

As my testimony points out, we have made a series of decisions over the past year which have essentially reinterpreted the Federal Power Act and ECPA to give mandatory authority and veto power to those other agencies under certain circumstances. Obviously I am in the minority and dissented. I do not think that is what the law says, but I think Congress can help us by making clear that when you wrote ECPA, you did not intend that result. And, that would be one very surgical and immediate way in which we could significantly accelerate the process, and also do it at a very key time. Because all of these decisions are going to affect the relicensing of projects that I mentioned in my testimony, as well as pending new projects.

Senator BURNS. Well, one other comment, and that we have a lot of inquiry about relicensing the cost and all of that, and I would hope that this commission would address that a little bit. And I know that you work under very tough conditions.

Thank you, Mr. Chairman. And I want to thank these folks for taking time out and coming down. Because I would just like say it is an educating process for me and I appreciate that.

Thank you.

Senator BUMPERS. Thank you, Senator Burns.

Senator Conrad.

Senator CONRAD. Thank you, Mr. Chairman.

I want to thank my colleague, Senator Burns for his comments on things that are of intense interest in our part of the country. And he has put his finger right on it.

We have a very serious situation with respect to water levels and the whole question of policy and what was intended when Congress provided for those mainstream dams. Obviously, one element was hydropower. We have the largest man-made lake in the United States. We have one of the significant hydroelectric facilities in the country, which provides low cost and clean power to our region of the country, and like Senator Burns, we also have substantial coal reserves. But in our part of the country, we believe that all of our resources need to be utilized in that each has a place. And I am increasingly concerned with what I see as the direction we are taking nationally with respect to hydropower.

We will have shown here shortly the charts that are on the floor here, that outline the procedure for just relicensing. This is not a new facility, this is relicensing. And I must say to you, it is asinine. It really strains belief that we have created a bureaucratic morass of this complexity. And my question to the Commissioners would be, how much of this is law, how much of this is something we need to address through a legal change, and how much of it is a regulatory question that needs to be dealt with by some way of finding a way to short circuit this mess that we are about to have displayed.

Ms. HESSE. Senator, I will answer that and then the others can join in.

I think that we all, everyone in this commission, is committed to hydropower development. It is something we believe in. But we are also committed to enforcing the statutes that Congress has passed. And our regulations are outrageously complicated, and there is no question about that. But we think that it is mainly because of the various statutes and various laws that we have to uphold. And I understand that these charts are going to be presented. And I would like to say that their value to me would be constructive and specific examples of changes that the commission can make, and that Congress can make, in short circuiting or simplifying these procedures.

If there are ways to simplify, we would certainly like to know, and we will follow through on that. As far as what changes could be made from a legislative point of view, or a regulatory point of view, I would be glad to have the staff look at that and submit a report to you.*

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*The material was not received at the time the hearing was sent to press.

Senator **Conrad**. I would appreciate that and I think the committee would, because I think all of us are grappling here with a procedure that clearly—I mean, somewhere we have broken down. I mean it should not take six years. I think all of us would agree. I mean this is run amok. And clearly some part of it is regulatory, some part of it lies here; let us find a way to work together to clear this chaff out from underneath, so that we can get on business.

But we just—we should not be loading all this on any system. Certainly not one that is the cleanest source of power that we have. I would just like to know for the record, if you have any, any data on what percent of electric power capacity in the country is currently represented by hydro and what your projection is of what will be represented by hydro in 1995 or the year 2000, for whatever years you would have it. Do you have those numbers?

Ms. **Hesse**. We do have those numbers, Senator, and we will supply a report for the record.

[The information follows:]

As of January 1, 1989, hydroelectric capacity accounts for 12.2 percent of total operable capacity from all sources. By the year 1995 hydro capacity's share is estimated to be 13.1 percent and increasing to about 13.5 percent by the year 1999.

Senator **Conrad**. All right. Anybody have a sense of what that is?

Ms. **Hesse**. It is about 13 percent.

Mr. **Trabandt**. I think my prepared testimony has those figures, Senator. It is 13 percent now. And, our staff has told us that is about 80,000 megawatts, and that could be doubled, or more than doubled with the potential that is in the country today.

Senator **Conrad**. That percentage could be more than doubled?

Mr. **Trabandt**. Capacity itself.

Senator **Conrad**. Demand is going to be doubled. What would happen to the percentage?

Mr. **Trabandt**. The percentage under the current projections would probably, if all of that was developed, would probably go from 13 to the range of about 18 or 19 percent.

Senator **Conrad**. All right. Well, in the interest of time, Mr. Chairman, I have lots more questions, but——

Senator **Bumpers**. Senator, I think all of us have. And I think we are going to have to resign ourselves to submitting a lot of questions in writing to the commission.

Senator Wallop.

Senator **Wallop**. Mr. Chairman, your observation is duly noted.

Senator **Bumpers**. Well, please proceed. I do not want to cut you off.

Senator **Wallop**. No, I will have some, mine track those of others. I am concerned that FERC has changed its role. That it is now, instead of a creative regulator, is an all too creative complicator of the process of normal energy commerce in America. And I would say this, that I do not accuse anybody of having gotten there intentionally. But I would suggest maybe that you might go back and look at what staff may have done to you in terms of drafting things in your behalf.

I am fully willing to share, Chairman Hesse, the blame that you have laid on the complication of the laws under which you operate.

But I am also willing to say, that they are not so complicated as the procedures now are. And I—I have got to say that I have, like Senator McClure, terribly concerned that the usurpation of states rights to allocate water.

I know you have won that in court. But you have got to say that that is a new concept. It was clearly nothing that Congress ever designed, because Congress never goes that direction, would never give the state—any regulatory agency—the sole right to appropriate water, for any reason.

And I am, you know, my hope is that the Supreme Court overturns it. And if it does not, I along with Senator McClure will find ways to re-establish the equilibrium between the United States and its states. Because all of our states are wholly dependent upon the surety of water law to guarantee our economic stability. If we cannot be sure that when we deliver to somebody a water right, that water right is his, we have no economic stability. And you will have been not only in the business of regulating energy in the country, but regulating where commerce lives. Because it will go to some places where that is not a threat.

I do not think that that is what was designed or devised when Congress set it up, this regulatory mechanism. And, Mr. Chairman, I will let it lie there. And I would be happy to have a response from anybody. I do not mean to sit and lecture without the ability to respond. But we will have some questions that we will submit in writing to this effect.

Senator BUMPERS. Thank you very much, Senator Wallop, and Chairman Hesse and commissioners, we appreciate very much that you have taken the time to come to be with us. We will have some written questions for you. And let me just leave you with this last thought.

Nobody on this committee is suggesting that you—I think there is a feeling that maybe the Commission has tilted too far in one direction and is not taking into consideration some other values as it should. But we are not trying to tilt the scale heavily in one side or the other. The procedures are long and complex and I think the value of hydropower as an energy source is not getting quite the consideration it should. And that is not to say, that I think we ought to kill all the fish in the country.

Thank you very much.

Ms. HESSE. Thank you, Mr. Chairman.

Senator BUMPERS. Our next panel consists of Fred Ayer, Director of Environmental Affairs, Bangor Hydro-Electric, Bangor, Maine; Gail Ann Greely, Senior Licensing Consultant, Pacific Hydro Consulting, Alameda; Garth Jackson, Resource Development Coordinator, Tacoma City Light, Tacoma, Washington; Nick Lenssen, Researcher, Worldwatch Institute; John Echeverria, General Counsel, American Rivers, Washington, DC; David Conrad, a first cousin of our Senator Conrad, Water Resource Specialist, National Wildlife Federation; and Kerry Adams, Senior Vice President, Georgia Power Co., Atlanta.

Would all of you please take your seats and let me also say that we are already well behind schedule. We are going to hear all witnesses. I have to leave at 12:30 p.m.; either Senator Conrad or Senator Burns will take over at that point. But I would like, personally to hear all the witnesses. And I am asking all of you, if you possibly can, do the very best to extemporize your statements and shorten them. I will not control Ms. Greely's time. But I would like to shorten the testimony of others if at all possible so we can get into more questions.

Ms. Greely, please proceed. Incidentally, if there is any photographer here who would like a dynamite picture, you ought to come up here and get a picture of this licensing process.

STATEMENT OF GAIL GREELY, ATTORNEY, PACIFIC HYDRO CONSULTING GROUP, ALAMEDA, CA

Ms. **Greely**. Thank you very much and good morning.

Senator **Bumpers**. Pull the microphone close, Ms. Greely.

Ms. **Greely**. My name is Gail Greely and I am with Pacific Hydro Consulting Group of Alameda, a small firm that specializes in hydropower regulation.

But I am here today in my capacity as Vice President of the National Hydropower Association. NHA is a nonprofit organization founded in 1983 and dedicated to maintaining the viability of hydropower as a low-cost and reliable source of energy for this nation's future.

We appreciate very much the opportunity to come here today and talk about the role of hydro and to engage in part of the ongoing public debate about planning for our energy future.

The hydro community is very concerned that while we believe we are an energy technology that provides substantial public benefits, not just power generation, but flood control and irrigation and recreation and air quality improvements, we see that additional new hydro capacity is now minimal and our existing capacity is in jeopardy from an excessive regulation process.

We do not think that is good policy. And to help you understand why we feel that way, we have put together this chart trying to explain how hydro regulation works. There is no way I can explain this without getting up in front of it and pointing to it, so I am going to start shouting from there on.

The **Reporter**. You are going to need to somehow take a microphone.

Senator **Bumpers**. Why do you not walk around. That is it, walk around, then you can pick it up.

I assume the licensing procedure is really longer than that, but they measured the room, and just tried to make it—fill the space available.

Ms. **Greely**. Well, I can say we had to make some important simplifying assumptions to make this thing fit on 48 square feet of paper.

Senator **Bumpers**. Wait just a minute now. We would not want to miss a word of your testimony, Ms. Greely.

Is there a wire there for her, long enough for her to—yes, that is it. And I know that is cumbersome, but it is okay.

Ms. **Greely**. All right. I will give this a shot.

Senator **Bumpers**. You have to hold that microphone right next to your mouth.

Ms. **Greely**. I do not know where to start except perhaps by telling you that when the draft of this chart was put together, it was done on the floor of my office with 12 feet of butcher paper and a box of broken crayons. And when we got all finished, those of us that had put this together, and remember we do this for a living, we said to ourselves, if you knew this was what you were going to have to go through, why would you ever start the process.

It kind of reminded us of having children. Now if you really thought it through at the beginning, you might have just turned out the light and gone back to sleep. [Laughter.]

Senator **Conrad**. Mr. Chairman, is that going to appear on the record? [Laughter.]

Senator **Bumpers**. Yes, and probably in every newspaper in the country. [Laughter.]

Ms. **Greely**. Well, unfortunately, relicensing for the owner of a project is just as inevitable as procreation is for the species. So you have got to do this. [Laughter.]

Senator **Bumpers**. You got to do this, but you could turn out the lights. Is that what you are saying? [Laughter.]

Ms. **Greely**. We can turn off the lights. We can do that. But we are going to go through this process instead.

Let me give you a couple of pointers about how we put this thing together to start out with. Now, obviously, every project is different. And there is not a single project that is going to look exactly like this as it goes through the process. We had to make some assumptions about how it was going to work. But we tried to make fair assumptions so that this would represent sort of what most projects going through the process will look like.

Now everything that appears above this center line, in blue here, is the responsibility of the applicant. The applicant provides the basic information, does the studies, prepares all of the major reference documents throughout the process. You also should notice that, starting here at the beginning and up to three years into the process—the license application is actually filed—there is very little involvement by the FERC. What goes on here goes on between the applicant and the resource agencies that appear here as the colored triangles in the process.

I think it is also important to note that we could have put in addition to this time line across the top, we could have put a cash register tape. Because it is during this process, during the work of the applicant, that the money in the process is being spent, the money to fund all of the studies and to prepare all of the documentation.

Now as I said, we did have to simplify the process a little bit, to make it fit on 48 square feet of paper. And the major assumption of the many that we made to do that, was that everybody performs on time. That the applicant, that the agencies, that the FERC, everybody meets their respective deadlines. That is very difficult to achieve now. But on December 31, 1991 when over——

Senator **Bumpers**. Do not forget the microphone.

Ms. **Greely**. When over 170 relicense applications fall on FERC's doorstep, that is going to be impossible. Let me start at the beginning, good place to start.

While preparation for relicensing a project can begin a decade or more before that license actually expires, the formal part of the process begins right here, five years before the exploration of the existing license with the owner of the project sending a notice to FERC of its intent to relicense the project. At the same time the applicant makes available a library of information about the project to the public, to potential competitors and to the resource agencies.

The next major step is first stage consultation, where all of these triangles are grouped here. The point of first stage consultation is to make sure you have identified all of the key environmental issues, and as far as possible, reached agreement with the resource agencies on what study should be done to gather the relevant information to assess the impacts of continuing to operate this particular project.

The studies themselves, as you can see in this large box, cover a number of different disciplines. They cover water quality, wildlife, fisheries, recreation, aesthetics, in some cases socioeconomics, land management. And during all of those studies and this consultation, the resource agencies are very much involved. They comment on the issues, they help decide what studies are going to be done and how they will be done, and they also review the results of the studies as that information becomes available.

Now while these environmental studies are going on, the applicant will also be performing some of its own engineering studies to evaluate the feasibility of putting—of doing upgrades or rehabilitation to the existing facilities. This is going on at the same time.

All of this is going to come down into the preparation of a draft application for new license. That application is thoroughly prepared by the applicant; it is then sent to all of the resource agencies for their review and comment. Their comments are incorporated then into the final document which is filed with the FERC two years before the expiration of the license, three years after we have started this process.

Now somewhere in here we have also begun the process of developing what are known as the 4(e) conditions, developed by the U.S. Forest Service and inserted into the license by the FERC. That is for projects that are on Forest Service ground and I understand approximately 40 percent of those projects to be relicensed in 1993 are affected by the 4(e) authority. What the Forest Service does, as you can see on this green line at the bottom, the Forest Service does its own environmental assessment of the project. It goes through its own scoping process, prepares its own NEPA document and does so again with input from the applicant and comment of review recommendations from the same group of environmental agencies. That process culminates in recommended 4(e) conditions that FERC, by law, must insert into the final license.

Also during this process——

Senator BUMPERS. Ms. Greely, let me interrupt you just a moment now. Every one of those stages, do each one of those stages represent a separate study or a separate report?

Ms. GREELY. Each of——

Senator BUMPERS. Are some of those things combined and simply because a combined study and report may have several different facets to it; my question is, are some of those actually consolidated in one study or one report, because they require different findings, or are they all separate stages where a separate study and report must be filed with FERC or furnished by the applicant?

Ms. GREELY. Most of the items on this particular chart are separate studies.

Senator BUMPERS. Okay.

Ms. GREELY. You agree on a separate methodology and produce a separate report. For some projects they might be combined. Generally they will be separate and then the information produced by the studies is rolled into the application itself. And not only does the applicant send FERC each and every study, they also send an application that reflects the conclusions drawn from those actual field studies.

So when—by the time you have gotten to this final application that is filed with FERC, you are no longer measuring this document in pages. You have incorporated all of your studies, you have incorporated all of the required information, you have incorporated documentation of having consulted with everybody all along the way, and you are measuring this stuff in feet of paper.

Before you file that document, though, you have got another step to go through, and that is this purple line down here at the bottom, the water quality certification, under Section 401 of the Clean Water Act. Before FERC can issue a license, the applicant must have received either certification of compliance with state water quality standards or a waiver of certification. And before you file the application, you have got to insert proof that you have started that process.

But what has happened with 401 certification is very much what has happened with the Forest Service 4(e). It is broadened beyond its original scope. And the 401 process has now become yet another—in many states which implement the 401 requirement—has become another complete environmental review of the project. The state will go through its own environmental quality assessment, make its own separate report, again drawing on information from the applicant, again involving the same agencies, and ultimately reaching a set of conditions that will include some on water quality, but others that may be as far ranging as dam safety, recreation or wildlife enhancement.

All of this is going on in parallel with the FERC process, which is the center line on this board. Now, once we get the application actually filed with the FERC, FERC takes over and is basically running the show from here on out. But the applicant continues to provide additional information. Either in the form of deficiencies in the application itself, or in requests for additional information.

The applicant also has the opportunity to make a final amendment to the application if it wants to propose any changes to either the engineering or environmental proposals that were made in the application itself. Both the final amendment, the supplemental information and the deficiencies, all of those are again subject to agency review and comment. And it is all throughout this period that the agencies will typically provide their recommendations for mitigation and enhancement measures for fish and wildlife and other environmental resources as well.

Now as we are moving along this brown line, providing all the information and getting the process going, you are going to probably get in many states to the point where we have to apply for a state water right permit. Now, we have put this in as an example; this varies greatly from state to state. In some states there may be a local hydro permit. In other states there may be a land permit for use of the stream bed. In the western states, typically, it is a water right permit.

But again with the water right permit, we have the same problem of expansion of the scope. I do not think anybody in hydro has a problem with getting permission to divert water from a stream and putting it back in. I do not think anyone has a problem with making sure they are not taking water away from an existing user. What we have a problem with is, the process has expanded so much, that there is yet another environmental review of the project, another environmental document, more information from the applicant, and more consultation with the agencies.

At the end of that process you have got a water right permit that may contain instream flow conditions, wildlife enhancement construction limitations and design specifications. All of that can be included in the state permit started as a water rights proceeding. Now if we get toward the end of this, we actually may get lucky enough to have an environmental assessment. One of the assumptions we made was that this would be an environmental assessment rather than the more complex EIS process.

When the environmental assessment is issued, if it contains—or if its recommendations for fish and wildlife are not consistent with the recommendations made by the state and federal fish and wildlife agencies—then we start another segment of the process, called the 10(j)(2) dispute resolution. This was mandated by ECPA. That can involve more comments from the agencies and from the applicant and possibly a meeting in which FERC negotiates with the fish and wildlife agencies about the fate of the project.

Now let us see, we are actually down to getting down there.

Senator BUMPERS. Ms. Greely, I am going to ask you to suspend at that point. I only have five minutes to get to the floor for a vote. Hopefully, Senator Conrad will be back in a minute or two and we can continue; I will vote and be back just as quickly as I can.

[Recess.]

Senator CONRAD [presiding]. The committee will come back to order and we will pick up with the testimony of Ms. Greely.

Please proceed.

Ms. GREELY. Thank you. We are now at the point where the new license for the existing project is being issued, but it is not over yet.

At this point you really just start the appellate process, and it is important to note that the FERC has recently ruled that any fish and wildlife agency whose recommendations for fish and wildlife mitigation and enhancement were not included in the license as issued, has an automatic right at this point, to intervene and to appeal that decision.

The appellate process can go on and on and on. During that time, after the license is issued, the FERC, the applicant at this point now, the licensee, will continue to work to comply with all of the post-licensing conditions, preparing to do the post-licensing studies, making the plans for any construction or any enhancement measures. But also at this time, the Forest Service comes back in again, with the second phase of its process.

Now, back here the Forest Service has included a 4(e) condition, that the commission must include in the license. One of the standard 4(e) conditions is now that the applicant, at this point the licensee, must also obtain a special use authorization from the Forest Service under the provisions of the Federal Land Policy and Management Act. Now a project that is on public land administered by the BLM will skip the 4(e) part because that is not 4(e) land, but will go to a FLPMA, sorry for the acronym, a FLPMA permit called by the BLM, a right of way.

This is yet another complete environmental review of the project with again input from, for the BLM, input from the applicant.

Senator CONRAD. Could I just interrupt at this moment, and ask, is this a comedy skit from "Saturday Night Live?" [Laughter.]

Ms. GREELY. No, this is my livelihood. And if you want to eliminate my livelihood, I will be happy to find other work.

When we are down here at the Forest Service, we now have the—we are working on an SUA, we are negotiating the conditions on the special use authorization, that process has become a completely separate regulatory proceeding. In fact, one of the standard 4(e) conditions from the forest is that in the event of a conflict between the special use authorization and the terms of the FERC license, the SUA will control. That is what the Forest Service says.

So why do we do all this, you ask. We did all this so we could also have the pleasure of applying for a Section 404 of the Clean Water Act permit, a dredge and fill permit from the Army Corps of Engineers. The Corps and the EPA also do another complete review of the entire project, rather than just reviewing the isolated dredge and fill activity. They ask for more information from the applicant, they take more comment from the public and the agencies and they produce another permit.

Now we are down here at this final box. It has a little rainbow flowing from it. The final box is where the applicant—actually the licensee at this point—actually gets to operate the project, construct anything that has been authorized, in compliance with all five permits that have now been issued for the process. Now we are not talking about just potential for conflict here. This is real. This is happening now. One of the projects that Commissioner Trabandt mentioned, the Henwood Associates project, currently has four different instream flow conditions, imposed by five different agencies, each of whom claim that they have the ultimate authority to decide what the flows are.

Senator CONRAD. Are those flows different?

Ms. GREELY. They are.

Senator CONRAD. Dramatically different?

Ms. GREELY. They are inconsistent. You cannot do all of them. They—the most extreme of them renders the project economically infeasible. Now, one of those agencies is right. But I do not think anybody in this room could tell you at this point for a certainty, which one.

I think you can understand from this explanation why the hydropower community thinks there are some fundamental problems with this process.

I would like to say right off, clearly, and in front of everybody, that the hydropower community certainly recognizes it has an obligation to provide for environmental mitigation and enhancement for reasonable environmental mitigation and enhancement. Nobody in this room is going to say different. But we think this process is hopelessly unbalanced.

We think what is happening here is that there are simply too many opportunities for comment from the environmental side that there is opportunity after opportunity after opportunity for comment, review, recommendation, from environmental resource agencies representing fish and wildlife and other environmental interests. And on the other side of the ledger, representing power supply, and in many cases irrigation, flood control, different kinds of recreation, is the applicant through most of the way along.

Even once you get to the point where the application is at the FERC, this process of recommendation and comment from these specific interests continues throughout the process up to and past the actual issuance of the license. One of the things you can see in this process is, if you are a resource agency, sitting here on one of these triangles, and you do not get what you want out of FERC, you just move down the line, go talk to the Forest Service or your state water quality agency, or your state water board or even the Corps of Engineers and the EPA.

FERC picks up this—we believe FERC picks up this skewed perspective on the project. And that the process for FERC, after you have filed the application, becomes one not of evaluating competing resource interests, but of responding to agency comment. You can see this in the documents they produce. An environmental assessment for even a small project can be 90 pages long, but the safety and design assessment or the need for powers analyzed is a couple of pages. They talk about air quality benefits, they do not analyze them, they do not quantify them. They do a cost benefit analysis for the power component, comparing the cost of the generation facilities with the value of the power. But they do not compare the cost of the enhancement facilities with the value that they produce with their product.

When we get to the end of it all, we do not think that is equal consideration. Our second problem is also fairly obvious from the way this chart lays out the process. And that is jurisdictional conflict. You can see it right here on the chart, in the green line, the blue line, the purple line, the orange line, all of which end up in the final box for the licensee to comply with.

Now, nobody wants to see waste in the form of duplication of environmental review and documentation. But that is not the real problem. A lot of processes have duplication in them. The real problem is that these have been expanded, mostly by interpretation by the responsible agencies, to cover subjects that overlap and conflict with FERC's ultimate authority to balance the resource. You have got a 4(e) process that says the forest is in charge. You have got a water quality certificate that covers recreation. You have got a state water right that may cover fisheries and wildlife and everything else, and down at the end you have got the Corps saying, me too, I want to regulate as well.

This frustrates, not just the purpose of developing a hydro project, but it frustrates the purpose of engaging in resource balancing. You cannot make it stick. And, of course, any of these permits can effectively veto the project. Some of them have an outright veto authority; all of them have the ability to impose conditions that are so restrictive that the project is simply not economically feasible. And that is not just true of new facilities. That is true of relicensing as well. There are projects that will not be relicensed. In fact, one that I cited in my testimony, close to 27 megawatts—when you add up the cost of going through this process and meeting all of the agency demands to this point, 26 megawatts is not economic to continue operating. It may not be depending on what power values look like.

So each of these agencies in the process has a different objective, they have a different mandate, and they produce different conditions. None of them, except the FERC, has any responsibility for implementing national energy policy. So we get down here to the end with this box, where the licensee is supposed to try and figure out how to comply with all of these conflicting agency mandates. At the same time, you have got an energy policy that is frustrated and fragmented by the same conflict of agency objectives. And this is an energy issue. It is an energy issue about getting government permission to continue to operate an existing hydroelectric facility. It is about clean, safe, efficient, reliable, renewable domestic hydropower.

But we believe that this regulatory process and the kinds of outcomes it produces will reduce this nation's stock of hydropower generation. Some small projects will simply be abandoned in the face of this. Many projects will see their electric generation reduced as a result of operating restrictions stemming from environmental concerns. We have already seen that new development of hydropower projects has been significantly reduced and discouraged by an equally complex original licensing process.

The cost of going through this is just too high. The lead times are too long; the risks are too great; the profits are too small for hydropower development to be able to compete for financing dollars with other energy projects like gas-fired combustion turbines. We feel that this nation is going to have to make some very hard environmental choices in planning its energy future. But if we allow this process to continue on this course, we are going to make one of those choices by default. We will choose by default to exclude hydropower from the future energy mix. And the public is going to lose. The public will lose the multiple benefits of hydropower and at the same time will pay the environmental costs of the alternatives we are forced to select.

We do not think that is good energy policy. We do not think it is good environmental policy. It is just bad government. Thank you very much.

[The prepared statement of Ms. Greely follows:]

Testimony of Gail Greely
Vice President of the National Hydropower Association
before the
Subcommittee on Water & Power
Executive Summary

- The environmental impacts from our energy technologies require hard choices in order to maintain adequate electric supplies. The degradation of the nation's air quality, the impact of global warming or disposal of dangerous waste products must be weighed against the conversion of a fast flowing stream into a slower river or limits on the number of species in a stream.

- Hydropower provides valuable recreational, fish and wildlife, flood control, irrigation and water supply benefits in addition to generating electricity. Existing capacity is at risk and new development is minimal due to an excessive and complex regulatory process.

- Hydropower is an extremely valuable part of a utility's energy mix but the existing regulatory process is placing this valuable resource in jeopardy. Overlapping jurisdictions and confusion between state and federal roles have caused severe problems.

- The Senate repeatedly emphasized in the deliberations on ECPA, "equal consideration did not guarantee equal treatment", but this has not been born out in the industry's experience.

- An "unbalancing" occurs because the environmental agencies have the opportunity to demand studies and set license conditions even though they have only a single purpose mandate. The rate-payer's interest in low cost hydroelectric generation is represented only by the applicant. .

- Jurisdictional conflicts prevent the FERC from acting as the ultimate decision-maker.

- Hydropower is a clean source of electricity. Other energy technologies produce by-products such as acid rain, global warming, radioactive waste and tons of ash. Hydro's only by-products are lakes that provide recreation for millions of people every year; flood control to protect farms and cities; and water supplies for irrigation and household use.

- Existing small plants may be abandoned because the costs of pursuing the new license are too high, many will generate less power due to new operating restrictions. New development is minimal, due to the costly and complex licensing process.

- Unless the current regulatory climate is improved the public will be the big loser. Recreation, flood control, water supply and other public benefits will decline. Hydro's lost power will be replaced by other energy sources -- and their environmental impacts.

Subcommittee on Water & Power Hearing
Electric Consumers Protection Act of 1986
September 28, 1989
10 A.M. Senate Dirksen Rm. 366

My name is Gail Greely and I am an attorney and with Pacific Hydro Consulting Group of Alameda, California -- an independent firm specializing in hydroelectric regulation. My colleagues and I have had a combined total of 45 years of experience in the licensing and relicensing of hydropower projects.

I am here today in my capacity as Vice President of the National Hydropower Association. The National Hydropower Association is a non-profit organization founded in 1983 to support the common concerns of the hydropower community in maintaining the viability of hydropower as a low-cost, reliable source of renewable energy. Its members include project owners and operators, equipment manufacturers, as well as engineering, legal, financial and consulting firms from all regions of the country.

The industry believes it is very appropriate for the Senate to be reviewing hydropower's role and value to the nation's energy supply at this time. Through out the country there is vigorous public policy debate over the various energy options and their environmental consequences. In the very near term public policy makers will have to make hard choices and prioritize the environmental impacts of our energy technologies in order to maintain the public's seemingly insatiable appetite for electricity. Hydropower is an energy technology which provides valuable recreational, fish and wildlife, flood control, irrigation and water supply benefits in addition to generating electricity, yet existing capacity is at risk and new development is minimal. Is this good public policy?

The Licensing Process

Today, I would like to discuss what existing hydropower projects face when they must file an application for relicensing before the Federal Energy Regulatory Commission. This process, as illustrated by the attached charts (see Insert 1.), reflects the requirements made by the 1986 Electric Consumers Protection Act and the regulations F.E.R.C. has adopted, as well as the roles of other state and Federal agencies. Although the process differs from project to project, what I will describe fairly represents what a moderate-size existing project in a National Forest, with modest proposals to improve its facilities, can expect to face.

I. Notice of Intent and First Stage Consultation:

While preparations for relicensing may begin years before the expiration of the license, the first formal act is the existing licensee's notice of intent to relicense, which must be filed five (5) years before the license expirations date. This is followed by "first stage consultation", in which the licensee prepares a summary of relevant project information and makes this available to the consulting agencies and the public. For purposes of this illustration, we have selected a dozen agencies, but in fact, the number of consulted agencies may be triple that. This first stage of consultation also includes a mandatory joint meeting with the agencies, which the public may also attend. The focus of the meeting and subsequent agency comments is on identification of environmental issues and required studies. An applicant must preform all studies reasonably requested by the consulting agencies, or risk having its application rejected as deficient. If there is disagreement about the need for requested studies, the Director of FERC's Office of Hydropower Licensing is authorized to make a preliminary decision in informal dispute resolution.

II. Studies:

The studies cover a very broad range of disciplines, including all of the subjects that must be discussed in the application to FERC. Environmental studies are generally required to assess impact of continuing operation of fisheries, wildlife, botanical resources, water quality, recreation, cultural resources, socioeconomics, asthetics and land use management. Additional studies can be requested by the agencies throughout the relicensing process, well after the initial consultation. During this same period, the licensee will probably also be studying possible upgrades or additions to the existing facilities. Additional environmental studies may then be required to evaluate the impacts of any feasible upgrades. The development of study methodology, the data collection and study reports are all subject to continuing agency consultation. The results of the studies are collected with other material prepared by the licensee and put into the form of a draft relicensing application. Review of the draft application by the agencies completes the second stage of consultation. It is at this time that the agencies are likely to present their proposals for environmental mitigation and enhancement. Final study reports and documentation of this extensive consultation must be submitted with the final application to the FERC. This application and study reports for many relicensings will not be measured in pages, but in "feet" of paper.

III. NEPA, 401 Permit and other environmental assessments:

While the licensee is moving forward with preparation of the FERC documents, other parallel processes are also underway. For projects on Forest Service land, the USFS will begin its own NEPA evaluation to decide on the conditions that it will insert in the new license pursuant to Section 4(e) of the Federal Power Act. Other agencies and members of the public participate in the USFS scoping process, which also relies on the licensee for environmental studies and project information. The licensee must also apply for water quality certification under Section 401 of the Clean Water Act before it files its final application with the FERC. Because the federal Section 401 program is administered by state agencies, the process differs from state to state, but generally another round of environmental review is required under state environmental assessment statutes. The FERC requires that the application contain evidence that the licensee has applied for certification, and certification must either be issued or waived before a license can be granted. This process also involves more agency and public participation and more information provided by the licensee.

IV. Deficiency Requests:

This information gathering doesn't stop with the filing of the final application with FERC. There may be deficiencies in the application, or FERC Staff may request supplemental information. It is also possible for agencies to request further information at this time. All such supplemental information is also provided to the agencies for comment. After the new license application is filed, deadlines are set for the applicant in processing responses -- although no deadlines are put on FERC Staff's completion of its own analysis. Another round of agency comments and responses is required. A final amendment to the application is permitted, and it is also accompanied by agency review and comment.

V. Water Rights:

Somewhere in this time period, many licensees will also begin the process of obtaining state water rights either for continued operation or for proposed project upgrades. In some states, land rights for the streambed or state hydro permits may be required instead. Again, an environmental assessment is conducted with information supplied by the licensee and with full public notice and agency participation.

VI. FERC Notice of License and 10(j) Disputs:

While this is happening, the FERC's own analysis is moving along with "Input" for the agencies. It is important to note that while the process allows anyone to intervene and become a party to the proceeding at the time the application is "noticed", a fish and wildlife agency need not do so to have a right to appeal and a final decision by the FERC that disagrees with its recommendations. Consequently, fish and wildlife agencies can communicate freely with the FERC during the processing of the application without having to inform the licensee or other parties because they are not considered a "party". If an environmental document is finally issued by FERC that does not adopt the fish and wildlife agency's recommendations, the agency can still press its view in Section 10j dispute resolution and in an appeal from the Commission's decision. Any party or fish and wildlife agency can appeal the issuance of the license.

VII. Special Use Permits & 404 Dredge and Fill Permits:

After the license is issued, and while appeals may be pending, the new licensee must then begin to comply with the license conditions. One of these conditions, mandated by the USFS under Section 4(e), is likely to be that the licensee obtain a special use authorization from USFS. The licensee must prepare another application and negotiate the terms with the USFS. If new construction is involved, the licensee will also probably have to obtain a Clean Water Act Section 404 permit from the Corps of Engineers. This involves yet another environmental review, more agency and public comment, and another set of conditions placed on the project. At the end of this, the licensee must somehow reconcile five sets of conditions on future operation and construction: the FERC license, the USFS 4(e) conditions and special use authorization, the Section 401 water quality certification, the water rights permit, and the Section 404 permit from the Corps.

This description of the process has been simplified to fit on 48 square feet of paper. It assumes that everybody involved in the process performs on time -- an unlikely assumption given the enormous workload of relicensing activity facing the FERC in the next few years. For the parallel permits at the state and Federal level, it also assumes no intervention by the public or special interest groups and no appeals -- also an unlikely scenario. All of this must be done simply so that an existing operating hydropower plant can continue to generate electricity for the benefit of the public.

Can the FERC Ensure Balance?

> Example 1: Some of those existing plants may be jeopardized by this process and its results. For example, Pacific Gas and Electric Company has calculated that an existing 26.7 MW project may not be economically viable over the next license term when the costs of relicensing and the environmental measures requested by the state and federal agencies are added to current operating costs. It is clear that the owners of the many small projects facing license expiration in the next few years will have to "sharpen their pencils" to justify relicensing in the face of the costs, complexity and uncertainty of this process.

Hydropower is an extremely valuable part a utility's energy mix but from the examples of how the regulatory process works it is obvious these resources are in jeopardy. We in the hydropower community want these projects to be reviewed in an efficient and balanced way to ensure that the public will continue to enjoy the benefits of low cost hydropower. However, we look at this process as implemented and see two fundamental problems.

First, the resource values of fish and wildlife have dominated the environmental considerations in evaluation of a hydropower project. This is in spite of the Senate's repeated emphasis in the deliberations on ECPA "that equal consideration did not guarantee equal treatment". You have heard it in the examples presented here, and you can see it in our illustration of the process.

The "unbalancing" occurs because the environmental agencies have the opportunity to review and comment on every phase of the process while the public's interest in hydroelectric generation (and related benefits in recreation, flood control and water supply) is represented only by the applicant. The fish and wildlife agencies have an opportunity to advocate their constituency specific interests over and over again.

The FERC's processing of applications reflects this skewed perspective. For example the Environmental Assessment for a small project may be 90 pages long, while the Safety and Design Assessment that addresses the value of the power may be just a few pages. The documents may comment on improvements in air quality from new hydro generation, but do not analyze or quantify theses impacts. They quantify the cost of the project facilities and the value of the power output, but they do not compare the cost of environmental enhancements with their product.

There is also concern that the landslide of paper from the 1993 relicensing is coming down on a FERC Staff that already has a significant backlog. The FERC's current resources do not permit them to perform the necessary independent evaluation and analysis of these projects "in-house". For the FERC to properly implement the regulatory scheme intended by ECPA, more resources will be needed.

> Example 2: This imbalance can be seen in studies required by the agencies and the FERC. At the Island Park Project, instream flow studies are being required for a project using releases from a Bureau of Reclamation dam. The applicant will have absolutely no control over the flow releases made by the BOR and can do nothing to enhance the fishery based on study results. It is nonetheless being asked to pay for the work.

Jurisdictional Conflicts: Is the FERC the Final Arbitrator?

The second major problem is that the existing jurisdictional conflicts in the process mean FERC is no longer the ultimate decision-maker. Licensed hydropower projects are required to obtain a certificate of water quality conformance, or waiver of certification, prior to license issuance under Section 401 of the Clean Water Act. The Environmental Protection Agency (EPA) has overall responsibility for implementation, but the Section 401 certification is administered by state water quality agencies. The original intent was to ensure that hydro projects would comply with relevant water quality standards. However, the certification process has been expanded by many states to require a complete environmental review, with conditions in the certification covering dam safety, recreation, fisheries and wildlife. Section 401 certification has become a duplicate permitting process performed by state agencies without the "balancing" required of the FERC. It is also a method to veto a project because a license cannot be issued without a 401 certificate.

The same federal legislation also created the Section 404 process for what were known as "dredge and fill" permits. Intended to regulate construction activities that might damage water quality, particularly through sedimentation, this permit has also been expanded by the administering agencies. Section 404 permits are issued by the Corps of Engineers (Corps.), but the environmental review of the dredge and fill activity is performed by the EPA and the project is subject to an ultimate veto if they cannot obtain this permit. Their current interpretation of Section 404 has created another duplicate permit. The Corps. develops another environmental document under NEPA, and EPA adds conditions such as recreation, wildlife mitigation, and in-stream flow for fishery protection. These are issues that should be resolved in FERC's balancing of resource values and consistent with a comprehensive plan for the waterway. Instead they are added onto what was basically a permit for regulating construction methods.

> Example 3: The procedure for obtaining Section 401 certification in California is a good example of how the process is abused. State agency procedures now consolidate the 401 certification with the project proponent's application for water rights before the State Water Resources Control Board, and require that a California Environmental Quality Act document be prepared. The application for 401 certification will be denied if the CEQA document is not completed within a year, to avoid any waiver of the 401 requirement for failure to act. When the CEQA process and water rights determination are complete, the 401 certificate will issue, but it will include by reference all of the environmental conditions imposed on the water right permit. The scope of the 401 permit as is broad as the CEQA investigation. Authority to enforce the conditions, whether they are consistent with the FERC license or not, is asserted to come from the mandatory nature of the Section 401 requirement. If FERC or the applicant resists the state's conditions as beyond the scope of Section 401, there is yet another "hook". California state law prohibits a utility from making payments on a power purchase agreement for a hydro project unless the project owner has agreed in writing to abide by all conditions of the water rights permit. Section 401 was not intended to create a parallel state licensing process, but it is being used to do so.

Yet another group of federal agencies seek to control hydropower development through the Federal Land Policy and Management Act (FLPMA). Although FLPMA did not repeal or amend the Federal Power Act, the U.S. Forest Service and the Bureau of Land Management have interpreted FLPMA's right-of-way authority to create a duplicate permitting process for all hydropower projects on federal land. These agencies require another application, prepare another environmental document under NEPA, and issue another permit with another set of conditions. These agencies do not have any responsibility to maintain consistency with the FERC license.

> Example 4: In fact, the standard Section 4(e) and FLPMA special use authorization conditions developed by the Forest Service invite conflict with FERC licensing. One Section 4(e) condition imposed on many licenses states: "In the event there is a conflict between any provisions of the license and Forest Service special use authorization, the special use authorization shall prevail on matters which the Forest Service deems to affect National Forest Service resources."

Public Policy and Hydro's Role

The result of this kind of duplication is the web of lines and boxes you see in this relicensing chart. At the end of it all is a licensee who must figure out how to comply with all of the conflicting mandates and still operate the project. Also at the end of it all is national energy policy frustrated and fragmented by conflicting agency objectives.

Perhaps this regulatory overkill would make sense for some untried or dangerous technology. But this is not the schematic for permitting an experimental breeder reactor -- it is for government permission to continue to operate an existing generating hydropower plant for **clean, safe, efficient, domestic, renewable energy.**

Where the by-products of other energy technologies include acid rain, global warming, radioactive waste and tons of ash for our overflowing landfills, hydroelectric plants discharge nothing into our air or water. They use no fuel. Hydro's "by-products" are lakes that provide recreation for millions of people every year; flood control to protect our farms and cities; and water supplies for irrigation and household use.

This relicensing process, as implemented by the FERC and other state and federal agencies, will reduce the amount of hydropower generation nationwide. Some small existing plants will be abandoned because the costs of pursuing the new license are just too high. Some will generate less power after relicensing due to new operating restrictions. New development has already been discouraged by the equally complex process for original licensing. Licensing costs are too high, lead times too long, risks too great, and profits too small for hydropower to compete for financing dollars with other energy projects.

Today we must make hard environmental choices. We must weigh the degradation of our nation's air quality, the impact of global warming, and the disposal of dangerous waste products against the conversion of a fast flowing stream into a slower river or limits on the number species in a stream.

If hydro declines the public will be the big looser, with recreation, flood control, water supply and other public benefits lost. The lost power will be replaced with other energy sources -- and their environmental impacts. This isn't good energy policy. It's not good environmental policy. It's just bad government.

Insert 1. Licensing Process Chart*

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*The chart has been retained in subcommittee files.

Senator Conrad. Thank you very much.

Next we will go to Fred Ayer, the Director of Environmental Affairs of Bangor Hydro-Electric.

STATEMENT OF FRED AYER, DIRECTOR, ENVIRONMENTAL AFFAIRS, BANGOR HYDRO-ELECTRIC CO., BANGOR, ME

Mr. Ayer. Good morning. My name is Fred Ayer.

Bangor Hydro-Electric Co. is Maine's second largest utility.

Senator Conrad. If I could just at this point intercede and say, we are running unfortunately badly behind schedule. And if I can ask the remaining witnesses to summarize, hopefully, in about five minutes. And we will go through very quickly. You know, we will try to be reasonable about this. And if you have something that really needs to go beyond that, we will do that, because we have a whole other panel as well.

And with that, Mr. Ayer, proceed.

Mr. Ayer. My company has eight hydroelectric facilities, two which have been relicensed, four which are in the process of relicensing. I would like to pick up on something that Gail said, using her chart. She said the one thing that she omitted from the chart was a register tape or a price tag. If you look at the chart about half-way through, you will see something called second-stage consultation. We are less than half-way through, and our small utility of 90,000 customers has been in excess of $2.5 million for—to lead us to that point. And we do not think we have gotten into the heavy expenditures so far.

Let me talk a little bit about New England's dependence on hydroelectric energy without going into the details. It is in my written testimony. Hydropower represents about 15 percent of our energy in capacity in New England.

In 1985, New England Power Pool surveyed the New England states to ascertain attitudes towards power supply. And one of the interesting things that came out of that study was that, in an open-ended question which asked, if a utility did have to increase the supply electricity in an area, which of all ways that electricity can be generated would you most prefer to be used for this new supply of electricity. Hydro finished at an average of all the New England states of 19 percent followed by solar at 16 and nuclear at 15. What is of interest to me as a northern New Englander is that Maine, New Hampshire and Vermont averaged around 40 percent, as that being acceptable source.

Since the passage of ECPA in 1986, much has been said and resaid about balancing and equal consideration. First of all let me assure you that the utility representatives that I spoke with in getting my testimony together, I believe, are advocates of balancing environmental considerations and energy considerations. In fact, I believe that our industry understands and accepts reasonable environmental cost as the price of doing business, and a legitimate part of hydro relicensing process.

Unfortunately, the concepts of balancing and equal consideration have not been a consistent part of the relicensing process in the post-ECPA period. In fact, the post ECPA period is replete with examples of environmental carte blanche. Resource protection agencies at both state and Federal levels have dictated, and not negotiated, both studies and license conditions that have been costly, unreasonable and unnecessary.

I would like to go over real quickly a couple of examples from my region that may help better understand this. The first one is in Vermont, a project owned by Central Vermont Public Service, a utility. In this example, the Vermont Agency of Natural Resource persists in proposing to FERC that they require an aesthetic spill at four project dams. That would cost Central Vermont Public Service customers in excess of $23 million over the life of the project. Now the agency proposes a continuous spill of 296 cfs at one of the dams and 160 at the other three and this is strictly for aesthetics. CVPS, realizing that aesthetics has a role in their project, but looking after the right pairs, have proposed an alternate schedule that would allow aesthetic spills at daylight hours and during seasons where vacations and tourists are heavy. And that proposal which passes less water and on a seasonal basis would cost this utility's customers about $21 million less.

When I look at this proposal I guess the question that comes to my mind, are aesthetic flows needed 24 hours a day in the evening. And if you have ever been to northern Vermont, it does not make much sense to pass aesthetic flows over falls in the middle of the winter.

The second project I would like to talk about is a project on the Ohio River, the Meldahl project at an existing Corps of Engineers lock and dam project. At this project, the applicant proposed to add three turbines to an existing facility, and in the first stage consultation, fishery resource agencies suggested that they had to pursue studies of fish screens for entrainment of fish. During second stage consultation, the applicant provided information that showed that it would probably not be very practical to do this and that the type of turbines that they were going to install, bulb turbines, which are a horizontal configuration, would have minimal damage to the fish, if they were passed through.

But realizing there might be an impact, the applicant proposed a trust fund alternative. The—after FERC received the applicant's second stage application, FERC requested that the applicant provide functional design drawings of a fish screen. If you use the U.S. Fish and Wildlife Service criteria for the design of such a facility at a one inch spacing between the screen racks and half a foot per second, the facility at this site would need to be about 40 feet high and about a mile long. The applicant went back and discussed it with the agencies and they have agreed to the trust fund as an alternative. And the applicant has filed with FERC without the functional design drawings. The reason being that just the preparation of the functional design drawings would be in excess of 1,000 man hours to produce something that I think we can safely say would not work.

I will pass in interest of time the last two.

[The prepared statement of Mr. Ayer follows:]

Subcommittee on Water & Power Hearing
Electric Consumers Protection Act of 1986 Oversight Hearing
September 28, 1989
10 A. M. Senate Dirksen, Room 366

My name is Fred Ayer; I have been involved in hydro-power licensing for 12 years, seven of those as a private consultant and five as an employee of Maine's second largest investor-owned electric utility. I am currently Director of Environmental Affairs for Bangor Hydro-Electric Company. My Company has eight hydro-electric facilities (two have been relicensed, four are in the process of being relicensed on the Penobscot and Union Rivers (Exhibit 1 & 2).

Today I represent the utilities of the northeast and would like to briefly discuss the following:

- Hydro-power's value to electrical consumers in the northeast.
- "Balancing" and the Electrical Consumers Protection Act.
- Overlapping or duplicative state and federal jurisdiction.

In his November 1988 letter to Bennett Johnston, NHA's past president, W. B. Smith, best describes the value of water power:

"Hydro-power is the oldest, best understood, most secure, economical and environmentally sound form of electricity generation. Its renewable nature makes it more economically stable and desirable than other depletable resources utilized for electric generation. Hydro-power facilities' average useful life -- well over 50 years -- and their low operating and maintenance costs offset the significant initial construction costs. Over time this results in the lowest priced electricity generation in our system.

Hydropower facilities are unique. No other energy source provides millions of consumers with important flood control, water supply, irrigation, fisheries and recreational uses. It is well documented that impacts on the environment (fish, wildlife and natural habitats) can be minimized and frequently enhanced through careful planning and restoration. Hydro-power is the only means of electric generation that is non-consumptive in its use of our nation's valuable water resources."

In the New England Power Pool's (NEPOOL) September 1988 survey, New Englanders' Attitudes Towards Energy Supply Issues (See Exhibit 3), electric consumers were asked: "If a utility did have to increase the supply of electricity in an area, which of all the ways that electricity can be generated would you most prefer be used for this new supply of electricity?" (Open-ended)

Hydro-electric power finished first overall with 19 percent followed by solar at 16 percent and nuclear at 15 percent. The state-by-state breakdown is reflective of the hydro potential in the surveyed states:

CONNECTICUT	MAINE	MASSACHUSETTS	NEW HAMPSHIRE	RHODE ISLAND	VERMONT
13%	42%	14%	37%	15%	42%

Utility electric consumers benefit from hydro's longevity. Many Northeast Utilities have facilities that have been generating electricity for more than 50 years. Bangor Hydro has one facility which will celebrate its 100th year of generating electricity in 1991! This is a project we are in the process of relicensing and have no doubts that it will continue to generate dependable low-cost electricity for our customers far into the 21st century.

The value of hydro-power to the Northeast region cannot be overstated. In New England and New York State combined, hydroelectric facilities amount to about 7,800 mega watts (MW) of installed generating capacity and produce about 31.7 million mega watt hours (MWH) of energy annually (1987 DOE date). These figures represent about 15% of the region's total electrical capacity and energy production. In these times of critical energy supply in which we now live, each percentage of energy production is vital in maintaining our region's ability to keep pace with demand.

Hydro-power, however, provides clean, reliable and low-cost energy in a way which makes it a more important part of the region's generation mix than the 15% figure would imply. Hydro-electricity costs less per kilowatt hour (kWh) than other forms of energy, and it is not subject to fuel adjustment costs or price fluctuation ad supply uncertainty. Hydro-power's availability also surpasses that of other forms of generation, and it has none of the environmental impacts associated with fossil-fuel and nuclear generation.

Consider what could happen if the region's hydro-power resources were to be replaced by fossil-fuel generation. The region's use of coal and fuel oil (most of it imported) would increase by 3.7 million tons and 27.6 million barrels per year respectively. Among other things, this would further increase our region's dependency on foreign oil and increase the number of oil tankers using U.S. coastal waters, which as can be seen from recent events can result in severe and long lasting damage to the environment. Air pollutant emissions would increase -- SO 2 by 170,000 tons per year, NOx by 73,000 tons per year, and CO2 and other gaseous pollutants would also rise -- and there would be larger thermal effluent discharges to U.S. waters due to increased power plant cooling needs. The fuel cost alone would be about $68.5 million per year. To replace this existing hydroelectric generation with new fossil generation would cost about $5.8 billion in capital expenditures.

Although this scenario is not likely to happen, it does provide us with a clear picture of the benefits which have been, and are still being, provided by hydroelectric generation.

Since the passage of ECPA in late 1986, much has been said and resaid about equal "consideration" and "balancing."

First of all, let me assure you that the utility representatives that I have met with are advocates of balancing environmental considerations with energy consideration. In fact, I believe that our industry understands and accepts reasonable environmental costs as the price of doing business and a legitimate part of the hydro relicensing process.

Unfortunately, the concepts of "balancing" and "equal consideration" have not been a consistent part of the relicensing process in the post-ECPA period. In fact, the post-ECPA period is replete with examples of an environmental "carte blanche." Resource protection agencies at both the state and federal levels have dictated both studies and license conditions that have been costly, unreasonable and unnecessary.

The following are but four relicensing case examples of the lack of balancing and unreasonable agency demands:

1. Central Vermont Public Service ("CVPS"), Fairfax, Clark Falls, Milton and Peterson, The Lamoille Project (FERC 2205).(Exhibit 4).

In this example, the Vermont Agency of Natural Resources ("Agency") persists in proposing that FERC require a year-round aesthetic spill at the four project dams that would cost CVPS's customers in excess of 23 million dollars. (See Exhibit 5, page 3, for energy loss calculations.)

The Agency proposes a continuous spill release of 296 cfs at Fairfax and 160 cfs at the three lower sites. CVPS, realizing the importance of maintaining aesthetics while protecting its rate-payers, has proposed a release schedule which would allow for daytime and non-winter months aesthetic release but costing CVPS's customers $21,000,000 less than the Agency's proposal.

When looking at the Agency proposal, some obvious questions come to mind.

A.) Are aesthetic releases needed 24 hours a day? At night?

B.) Does it make sense to require aesthetic flows in the winter in northern Vermont?

With the public desire and need to conserve all forms of energy and the emerging evidence of global warming attributable, at least in part, to burning of fossil fuels, it is inconceivable that the Agency is requesting the licensee to throw away a significant portion of the Lamoille River's energy. For example, the Agency's proposed 296 cfs over the Fairfax dam represents spillage of the entire flow 50 percent of the time during the months of July, August and September

2. The Meldahl Project, Ohio River at Existing Corps of Engineers Lock and Dam.

The Applicant has proposed a Run-of-River 3 unit 100 MW powerhouse addition to the existing lock and dam. During first stage consultation, both state and federal fisheries agencies urged consideration of fish screens to prevent fish entrainment. During second stage consultation, state agencies agreed with the Applicant's contention that fish screens for this project were not practical -- a conclusion the FERC EIS for the Upper Ohio Basin came to also. The Applicant proposes to use blub turbines. Studies included in the Applicant's license application show that fish losses due to entrainment in large bulb turbines is small. Nevertheless, the Applicant has proposed a trust fund for fishery management as alternative mitigation and enhancement.

After FERC received the Applicants license application, FERC issued an additional information request to furnish functional designs of fish screens. The Applicant appealed to FERC staff explaining that using the USFWS design criteria for fish screens (i.e., 1" horizontal spacing of bars and 0.5 feet per second velocity) that the fish screen structure would be 40' high and more than a mile long! Besides being virtually impossible to clean with 1" spacing, the size of the screen would be impossible to support. The FERC staff's reaction was: "Be innovative."

After additional consultation, the agencies agree that screens are impractical and a trust fund is preferable. The Applicant has filed the license application without functional design drawings for the fish screens.

Additional information requests for obviously impractical solutions, where there is apparent concurrence, are not only unnecessary but expensive. Applicant estimates that at least 1000 man hours would be needed to produce functional design drawings for the fish screens.

3. Summit Hydropower, Cargill Falls Project, Putnam, CT. (Exhibit 5)

On May 3, 1985, the Connecticut DEP granted a 401 Water Quality Certificate for a proposed hydro project at Cargill Falls. Hale obtained a FERC license, but in 1986, Hale abandoned the project.

Summit is proposing a similar project to Hale's except Summit's project has a bypassed reach of 100 feet -- the original project bypassed 1200 feet.

On August 10, 1988, Summit requested a 401 Certificate from Connecticut DEP. On September 8, 1988, FERC accepted Summit's Cargall Falls license application for filing.

All consulted agencies, including DEP (see Exhibit 6 -- letter 1/11/89) provided comment letters stating that the project is in compliance with agencies' concerns.

On August 10, 1989, Connecticut DEP denied Water Quality Certification for the project based on aesthetic concerns of the local community. The Applicant has discussed modifying flows and other mitigation. The local community is not interested. In fact, they have been quoted in the press as not wanting the site developed since the community might like to develop the site in the future.

The frustrated Applicant's calls to the FERC have proved fruitless. FERC staff's response: "If you can't resolve this with the state, you're out of luck -- no license."

4. Bangor-Pacific Associates - West Enfield Hydro Project - FERC 2600, Penobscot River, Maine.

In 1984, Bangor Hydro received a new license for the West Enfield Project. The redeveloped project would continue as it had for 60 years to have a 2500 foot bypass between the existing wooden crib dam and the proposed new powerhouse. The license required a minimum flow of 500 cfs at the dam to be accomplished by leakage at the dam.

In 1986, Bangor Hydro Proposed to amend its license to eliminate the need to discharge 500 cfs (passage of 500 cfs continuous had a value of $400,000 annually in lost energy) at the dam. This would be accomplished by moving the powerhouse in-line with a rehabilitated dam. In anticipation of Agency requests, the proposed amendment also included upstream and downstream fish passage and, at the states request, the installation of Atlantic salmon smolt release ponds at a cost of $250,000.

Although state agencies generally liked the amended project, the USFWS, rather than eliminating the 500 cfs requirement, felt that the 500 cfs may not be enough–they wanted 2500 cfs. This was based on the Services belief that the project would result in the loss of 50 production units of Atlantic salmon habitat and this would result in the predictable loss of 3 Adult Salmon! which otherwise would return to the Penobscot.

FERC issued the amendment with two articles which represented their attempt at compromise:

A. Pass 500 cfs

B. Study the effectiveness of 500 cfs and study alternative mitigation means, including different flow discharges and substrate modification.

The compromise was sufficient to break the logjam – by mid July 1986 the project construction was underway. The April 1987 flood cut a channel through the west side embankment and removed part of the cofferdam. The area downstream of the dam (the 50 production units) was changed from gravel base with cobble from 3′ to 6′ deep to a 30′ deep channel. The habitat had relocated downstream.

Habitat studies were now moot. The developers now sought relief from passing 500 cfs. Attempts to locate habitat, working with the state agency at stream sites within the drainage, were unsuccessful

The outlook seemed bleak until a state agency official jokingly suggested that Bangor-Pacific buy a dam on the Pleasant River and remove the dam. The Columbia Falls Project (FERC 4304) was a small non-operating hydro project with a fish-way which did not work. The plan seemed unbeatable; buy a non-operating hydro facility, breach the dam and allow Atlantic salmon access to 1300 production units or habitat capable of producing 75 adult salmon.

It was not to be. Although all state agencies approved the idea, the USFWS and the Penobscot Nation opposed the plan. Their opposition was based on the belief that "out of kind" and "out of basin" could not legitimately be seen as providing mitigation for the impacts of the West Enfield Project

With no support and overwhelming pressure, including letters from every state agency and the governor, the USFWS accepted the inevitable. However, the manner in which they chose to do so provides valuable insight into the operating procedures of federal agencies, that is, rather than accept the off-site or out-of-kind mitigation, the service simply changed its mind deciding there was no longer any impacts. Thus, the 500 cfs was no longer necessary.

This kind of agency carte blanche is unreasonable. The project was required to fund a 2.5 million dollar state-of-the-art upstream and downstream fish passage. But that was not all. In addition the project had to bear losing an 500 cfs of flow which ultimately proved to be unnecessary and very costly, the expense of manpower requirements involved with the complex negotiations that spanned over two years, and the following additional mitigation and enhancement:

A. Smolt release facilities - approximately $250,000

B. Purchase and removal at Columbia Falls - $250,000

C. Fry stocking enhancement - $15,000 annually

FERC's new relicensing regulations have recognized some of this problem and have attempted to provide balance by requiring the agencies to justify their requests for particular studies or methodologies. However, in most cases, the only advocate for balancing the potential benefits of studies and conditions with the very real costs of these requirements to rate-payers is the licensee/applicant.

Yes, there is legal redress, but appeals should be a last resort – not standard procedure. FERC staff needs clear congressional direction that it is FERC's role and FERC's role alone to perform the balancing process of all competing uses for the water resources subject to its jurisdiction. Perhaps FERC's present posture results from receiving mixed signals from Congress. Perhaps the resource protection agencies and private conservation groups have convinced them that their role is simply to "pass on" environmental conditions dictated by the agencies rather than to balance the resource interests for the overall public good.

As an industry, we have serious reservations that FERC has the necessary procedures or experienced manpower in place to properly evaluate each of the 170 + new license applications it will receive at the end of 1991 and still properly balance the competing resource uses for each project. For example, FERC does not have criteria developed which explains how balancing will be done, nor has it published guidelines for licensees to follow in preparing balanced license applications. We are concerned that neither energy considerations nor the needs of the electric consumer for reliable, cost-effective hydroelectric power will be a legitimate part of the balancing equation.

Contributing to the difficulty of relicensing this renewable energy source are states who use the Section 401 Water Quality Certification process to regulate areas which Congress intended FERC to regulate. In New York and Vermont, recent 401 Certifications have contained conditions which regulate water releases from FERC licensed projects for fisheries, aesthetic and recreational purposes areas we believe are properly regulated by FERC under the Federal Power Act and not under Section 401 of the Clean Water Act. Unless this situation is reversed, FERC's power to regulate jurisdictional projects will be weakened to the point that state water quality agencies will ultimately regulate these projects, without consideration for the national interest. Such agencies often ignore the energy benefits of these projects and do not have the resopnsibility to balance energy and environmental issues. We do not believe that Congress meant to weaken FERC's authority with ECPA, and something needs to be done to clarify the ultimate Federal control over licensed projects.

State agency Section 401 conditions also seriously impact project economics and reduce the public's benefits from low-cost, clean electricity and other incidental benefits. For example, one long-established hydro project in our region is faced with the distinct possibility that the State agency will demand the reregulation of project releases and reservoir levels under its Section 401 Certificate for the purposes of fisheries and aesthetics to the point where about 100,000 MWH of energy would be lost yearly. Over a 30-year license term, this would cost the utility's rate-payers almost $400 million in replacement energy. It is also possible that such reregulation might force the need for the construction of new capacity to meet peak demand times. Such new capacity would cost at least $750,000 per MW, and would further increase the rate-payers' burden.

But the potential loss of this project's reservoir is used for the capture of peak run-off which is stored and later released for low-flow augmentation of downstream hydro developments in the drier winter and summer months. The water discharged from storage during the summer months is also important in maintaining river flows and temperatures favorable for fisheries and recreation. In addition, the reservoir serves to capture flood waters and protects downstream areas from severe damage. The utility fears that these indirect project benefits would also be lost, and the cost -- in property damage, personal injury and diminished recreation -- would be borne again by its neighbors downstream.

Utilities currently have no assurances that FERC can prevent such State reregulation from happening -- recent relicensing cases show that FERC usually just adopts State recommendations as license conditions. Faced with this situation, a utility's only recourse is to fight the battle for balancing on its own -- meaning administrative appeals and litigation.

In summary, we believe that optimizing the overall benefit of our existing hydro generation requires balancing the environmental considerations with energy considerations -- in short, protecting both the environment and electric consumers.

WE NEED YOUR HELP.

ECPA'S "Equal Consideration and Balancing" needs to be reaffirmed. FERC needs clear direction from Congress that its role is to balance the competing uses of this valuable resource.

There needs to be clarification that the control over hydroelectric development on rivers of the United States is properly a matter of Federal jurisdiction and, therefore, properly the subject of FERC regulation. The States should not be able to usurp this authority under the guise of water pollution control.

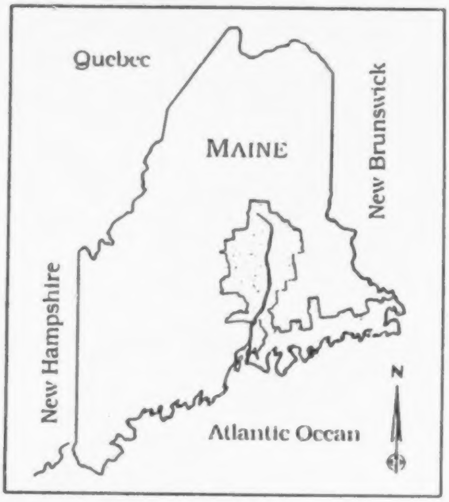
With your help, the utilities of the Northeast can continue to provide our electrical consumers with a dependable, economical, and clean power source that should be an important component of the power mix in the 21st Century.

LIST OF EXHIBITS

EXHIBIT 1	BHE System Map
EXHIBIT 2	BHE Hydro Tables 11 and 2
EXHIBIT 3	NEPOOL Survey Summaries
EXHIBIT 4	CVPS Letter to FERC
EXHIBIT 5	Summit Hydro - Connecticut DEP Letters

EXHIBIT 1

SERVICE TERRITORY



THE COMPANY

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Bangor Hydro-Electric Company is the second largest electric utility in Maine. It was incorporated in 1924, resulting from the combination of several smaller regional companies. It serves a population of about 195,000 in an area encompassing approximately 4,875 square miles in eastern and east coastal Maine. The Company is a member of the New England Power Pool, and is interconnected with other New England utilities to the south and with the New Brunswick Electric Power Commission to the north.

EXHIBIT 2

BANGOR HYDRO-ELECTRIC COMPANY

TABLE 2

FERC LICENSING STATUS

PLANT NAME	FERC NUMBER	INITIAL LICENSE	INITIAL LICENSE EXP.	NEW LICENSE ISSUED	COMMENTS
MEDWAY	2666	03/29/79	03/31/99	---	---
HOWLAND	2721	10/12/80	10/30/00	---	---
STILLWATER	2712	09/10/78	12/31/93	---	A
MILFORD	2534	12/31/69	12/31/90	---	B
ORONO	2710	11/10/77	12/31/93	---	C
VEAZIE	2403	02/18/65	12/31/87	---	C
ELLSWORTH	2727	04/12/77	12/31/87	12/28/87	---
WEST ENFIELD	2600	02/03/70	12/31/87	06/26/84	D

A In Process: First Stage Consultation

B Re-License Application filed 12/31/88 responding to informational requests from FERC

C Both Veazie & Orono expiration dates were accelerated as part of the original (1984) Basin Mills License Application -- operating on annual licenses

D Expiration accelerated as part of the West Enfield filing (1982)

BANGOR HYDRO-ELECTRIC COMPANY

TABLE 1

HYDRO-ELECTRIC CAPACITY & ENERGY

PLANT NAME	MWH[1]/YEAR	DISPATCH	INSTALLED CAPACITY	DEPENDABLE CAPACITY
MEDWAY	25,800	NO	3.4	3.40
HOWLAND	7,575	NO	1.8	1.80
STILLWATER	12,860	NO	1.9	1.90
MILFORD	48,600	NO	6.4	6.40
ORONO	14,300	NO	2.3	2.10
VEAZIE	57,760	NO	8.4	8.40
ELLSWORTH	25,810	YES	8.9	9.25
WEST ENFIELD[2]	96,000	NO	13.0	12.80

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[1] Generation figures for period 10/1/87-9/30/88

[2] Joint Venture project owned and licensed by Bangor Pacific Hydro Associates

EXHIBIT 3

NEW ENGLANDERS' ATTITUDES TOWARD ENERGY SUPPLY ISSUES

September 1988

Prepared for
New England Power Pool

STRICTLY CONFIDENTIAL

Executive Summary

This report presents the results of a survey of New England residents designed to investigate their beliefs, attitudes, and preferences regarding the means used to provide their electricity now and in the near future. In addition, the analysis examines the knowledge and attitudes New Englanders have concerning the process by which planning for the region's future electricity supply takes place and regarding the responsibility for supply planning.

The major findings of the survey are summarized in the bulleted points below. The remaining sections of this executive summary review the documentation for each of the findings. The major findings, then, include:

* Residents of the region are generally less sensitive to the issue of nuclear power than they were in May 1986; with the exception of New Hampshire residents--who still are most concerned overall with nuclear issues--New Englanders' current primary concern is pollution and the environment;

* In general, hydroelectric power continues to be the source of electricity most preferred by New England residents;

* Majorities of area residents agree that new sources of electricity will be needed in the next five years, and many believe the utilities are already having trouble keeping up with high peak demands;

* The energy options, most agree, include building more power plants or finding a way to reduce the amount of electricity that customers use. By a small percentage, more residents prefer that demand be reduced rather than supply be increased;

- * In the abstract, reducing demand sounds preferable, but some doubt arises when residents learn what demand-reducing measures would mean to them; less than half of the residents say they would be willing to undergo personal inconvenience or have the region lose some of its business competitiveness in order to forego the need for new power plants;
- * While the possible role of power plants in the greenhouse effect is not a top-of-mind issue residents recall hearing about recently, New Englanders are inclined to say that plants burning coal, oil, or natural gas are an important cause of the effect--but contributors that should not necessarily be shut down or phased out because of their contribution;
- * Residents are concerned that demand for electricity is growing about twice as fast in New England as it is in the rest of the country and yet there are no new electric generating plants under construction in the region;
- * To meet future energy needs, nearly all residents agree it will take more than building new power plants; it will, they believe, take new plants, finding ways to reduce demand, and better coordination of energy use;
- * Opinion is divided on whether or not the fact that their electric company has asked them to limit their use of electricity is an indication that utilities have done a poor job of planning for the future;
- * There is a lack of agreement among area residents with regard to whom they think is primarily responsible for planning the future supply of electricity for New England;
- * Although relatively few people are aware that a regional planning organization exists, about one-quarter of the residents have heard of NEPOOL specifically;
- * When informed about NEPOOL, a large majority of New Englanders believe it is a good idea to have such an association.

While the nuclear power plant issue in general is spontaneously identified as the most important energy issue facing their state, New Englanders differ across the six states in their concern and approach to this issue. Not surprisingly, New Hampshire residents are less likely to generally mention the issue and more likely to cite Seabrook in some context. Most notably, two in ten New Hampshire residents say Seabrook (18%) is the most important issue facing their state, while another 21% offer some anti-Seabrook comment in response to this question. Residents of Connecticut (15%), Rhode Island (16%), and Vermont (19%) are more likely than others to mention energy costs.

Evaluating alternative means of producing electricity

As another way to provide a context for the rest of the responses within the survey, New England residents were asked to give their preference for electricity generation and to evaluate specific electricity generation alternatives.

Before evaluating specific electricity generation alternatives, residents were asked to indicate what alternative way they think should be most commonly used in New England to generate electricity. By asking the question in this open-ended manner, respondents' spontaneous ideas about what would be best could be identified and their statements were not affected by alternatives offered in the survey itself. Examining these responses, we find that nearly one in five residents (19%) identify hydroelectric power as the alternative they most prefer. The next largest groups of residents name solar power (16%) and nuclear power (15%) as most preferred.

If a utility did have to increase the supply of electricity in an area, which of all the ways that electricity can be generated would you most prefer be used for this new supply of electricity?

SCALE: 1. Overall 2. Connecticut
3. Maine 4. Massachusetts
5. New Hampshire 6. Rhode Island
7. Vermont

	1	2	3	4	5	6	7
(Hydroelectric or water power)	19	13	42	14	37	15	42
(Solar power)	16%	15%	10%	18%	11%	19%	10%
(Nuclear power)	15	16	7	17	10	9	8
(Coal-burning power plants)	3	3	1	3	1	7	1
(Energy imports from Canada)	2	4	--	1	2	4	3
(Gas-burning power plants)	2	2	1	2	2	2	--
(Recycled trash/waste-to-energy plants)	2	3	3	2	2	2	1
(Oil-burning power plants)	1	2	--	1	2	3	1
(Wind power)	1	1	--	1	2	2	2
(Tidal power)	1	1	--	1	1	1	--
(Cogeneration)	--	1	1	--	--	--	--
(Geothermal power)	--	--	1	--	--	--	1
(Wood-burning power plants)	--	--	2	--	1	1	1
(Other)	5	4	5	6	3	6	5
(Combination)	3	3	1	3	3	4	3
(Don't care/no preference)	2	3	2	3	2	--	2
(Don't know)	28	29	28	29	19	27	21

Demographic breakdowns show that men are more likely than women to prefer nuclear and hydroelectric power. Additionally, people ages 18-55 are more likely to prefer solar power, while those who are at least 56 years old tend to favor nuclear power. Moderate and upper-income residents are also inclined to favor hydroelectricity.

Unlike in 1986, hydropower no longer is the most preferred source of electricity in every New England state. In the three northernmost New England states, Maine (42%), Vermont (42%), and New Hampshire (37%) residents clearly support hydroelectric power more than they favor any other alternative. In Connecticut and Massachusetts, solar power's (15% and 18%, respectively) favorability is tied with that of nuclear power (16% and 17%, respectively). In Rhode Island, solar power (19%) and hydropower (15%) receive similar levels of support. Across all six states, at least one-fifth of the residents are uncertain which of all the ways that electricity can be generated they would most prefer be used if a utility had to increase the supply of electricity in their area.

After spontaneously citing which source of electricity they most prefer, respondents evaluated several power generating alternatives. Of the five alternatives presented to them, at least one in five (22%) say they would most prefer that large transmission lines to import electricity from Canada or the midwest be used to provide more power for New England if needed. Following imported power, New Englanders support new natural-gas-fired power plants (15%), new nuclear power plants (14%), and hundreds of new small power plants using a wide range of fuels (14%). Very little support is given tc new coal-fired power plants (6%).

1. What do you think is the one most important issue facing the state of ____________ today?

SCALE: 1. Overall 2. Connecticut
3. Maine 4. Massachusetts
5. New Hampshire 6. Rhode Island
7. Vermont

	1	2	3	4	5	6	7
Pollution, environment	17%	17%	21%	15%	6%	25%	32%
Taxes	11	9	3	16	10	5	7
Drugs, alcohol	8	13	5	7	4	7	3
Government spending	7	9	--	10	1	1	2
Housing	5	9	4	3	7	4	2
Schools, education	4	3	6	4	5	6	8
Too much growth	3	2	6	--	10	2	14
Jobs, unemployment	3	2	11	2	2	3	3
The presidential election	3	--	1	7	1	1	--
Crime, violence	2	2	1	2	1	2	1
Economy, value of dollar	2	1	2	2	1	4	2
Inflation, high prices	2	1	--	3	1	1	1
Help for poor	2	1	--	4	1	2	--
Roads, highways	2	5	--	--	2	2	--
Nuclear power plants/waste	2	2	2	1	20	--	--
Energy issues	1	1	2	1	1	--	--
Low wages and salaries	1	--	3	1	1	2	1
Government/politics in general	1	1	--	1	2	2	2
Problems of the elderly	1	3	2	0	1	2	0
Medical care issues	1	--	1	2	2	1	1
Corruption/honesty in government	1	--	--	2	--	4	--
Utility rates	--	--	1	1	--	--	--
Need more industry	--	--	2	--	1	1	1
President, federal government	--	--	--	--	1	--	--
Welfare, food stamps	--	1	--	--	--	1	1
Transportation	--	2	--	--	--	--	--
Moral decay	--	--	--	--	1	--	--
Racism	--	--	--	--	--	1	--
Farm problems	--	--	--	--	--	--	2
Threat of war	--	1	--	--	--	--	--
AIDS	--	--	1	1	--	2	--
Other	4	2	4	4	3	3	3
Don't know	15	15	23	13	17	18	15

What do you think is the one most important issue facing the state of ________ today?

	Overall	
	September 1988	May 1986
Pollution, environment	17%	7%
Taxes	11	11
Drugs, alcohol	8	3
Government spending	7	2
Housing	5	4
Schools, education	4	5
Too much growth	3	2
Jobs, unemployment	3	5
The presidential election	3	--
Crime, violence	2	3
Economy, value of dollar	2	2
Inflation, high prices	2	3
Help for poor	2	4
Roads, highways	2	4
Nuclear power plants/waste	2	15
Energy issues	1	--
Low wages and salaries	1	--
Corruption/honesty in government	1	1
Government/politics in general	1	2
Problems of the elderly	1	1
Medical care issues	1	1
Need more industry	--	1
Welfare, food stamps	--	1
Racism	--	1
Other	4	5
Don't know	15	14

16. If a utility did have to increase the supply of electricity in an area, which of all the ways that electricity can be generated would you most prefer be used for this new supply of electricity?

SCALE: 1. Overall 2. Connecticut
3. Maine 4. Massachusetts
5. New Hampshire 6. Rhode Island
7. Vermont

	1	2	3	4	5	6	7
(Solar power)	16%	15%	10%	18%	11%	19%	10%
(Energy imports from Canada)	2	4	--	1	2	4	3
(Nuclear power)	15	16	7	17	10	9	8
(Wood-burning power plants)	--	--	2	--	1	1	1
(Oil-burning power plants)	1	2	--	1	2	3	1
(Gas-burning power plants)	2	2	1	2	2	2	--
(Coal-burning power plants)	3	3	1	3	1	7	1
(Hydroelectric or water power)	19	13	42	14	37	15	42
(Cogeneration)	--	1	1	--	--	--	--
(Recycled trash/waste-to-energy plants)	2	3	3	2	2	2	1
(Wind power)	1	1	--	1	2	2	2
(Tidal power)	1	1	--	1	1	1	--
(Geothermal power)	--	--	1	--	--	--	1
(Other)	5	4	5	6	3	6	5
(Combination)	3	3	1	3	3	4	3
(Don't care/no preference)	2	3	2	3	2	--	2
(Don't know)	28	29	28	29	19	27	21

NEPOOL

New Englanders' Attitudes Toward Energy Supply Issues

Cambridge Reports, Inc.

Methodology and Objectives

The Survey:

- Sample of 175 adults in each of six New England states
- Interviewing September 16-25, 1988

Objectives:

- Identify perceptions of current and future regional electricity supply needs
- Understand preferences people have for ways of meeting future needs
- Determine perceptions of the responsibilities of different energy supply planning groups, including NEPOOL

NEPOOL

Most Important Issue Facing the State

	1986 Overall	1988 Overall	CT	ME	MA	NH	RI	VT
Pollution/environment	7%	17%	17%	21%	15%	6%	25%	32%
Taxes	11	11	9	3	16	10	5	7
Drugs	3	8	13	5	7	4	7	3
Growth	2	3	2	6	--	10	2	14
Nuclear plants/waste	15	2	2	2	1	20	--	--

Cambridge Reports, Inc.

NEPOOL

Perceptions of Supply Adequacy

	Overall	CT	ME	MA	NH	RI	VT
1988							
Agree will need new sources in 5 years	76%	68%	79%	78%	86%	86%	75%
1986							
Agree will need new sources in 10 years	72%	68%	69%	73%	75%	75%	76%

Cambridge Reports, Inc.

NEPOOL

Perceptions of Supply Adequacy

Percent agree

	Overall	CT	ME	MA	NH	RI	VT
Utilities barely able to keep up with highest demand	75%	65%	64%	82%	68%	81%	71%

Cambridge Reports, Inc.

NEPOOL

Perceptions of Supply Adequacy

Percent agree

	Overall	CT	ME	MA	NH	RI	VT
Would undergo personal inconvenience to eliminate need for a new plant	44%	42%	44%	44%	56%	33%	53%

Cambridge Reports, Inc.

NEPOOL

Adequacy of Supply Planning

	1986 Overall	1988 Overall	CT	ME	MA	NH	RI	VT
Percent saying regional planners doing an excellent or good job	51%	29%	36%	38%	21%	27%	36%	40%

Cambridge Reports, Inc.

NEPOOL

Perceptions about the Adequacy of Supply Planning

Percent agree

	Overall	CT	ME	MA	NH	RI	VT
Real reasons for limitations not utilities' fault	53%	51%	54%	54%	54%	52%	56%
DSM actions mean bad planning	48%	48%	34%	55%	47%	39%	32%
Stop asking me to cut back	32%	35%	31%	33%	29%	24%	27%

Cambridge Reports, Inc.

NEPOOL

Awareness of Supply Planning Responsibilities

Who should be responsible for planning	1986 Overall	1988 Overall	CT	ME	MA	NH	RI	VT
Total public	**57%**	**34%**	**40%**	**36%**	**31%**	**39%**	**36%**	**36%**
State government	30	14	15	18	14	17	10	16
Federal government	12	11	12	10	10	11	16	7
Regional government	15	9	13	8	7	11	10	13
Total private	**35%**	**30%**	**33%**	**36%**	**29%**	**19%**	**33%**	**38%**
Individual companies	11	10	12	15	9	7	11	15
Regional organizations	24	20	21	21	30	12	22	23
Combination	**5%**	**30%**	**24%**	**19%**	**37%**	**32%**	**25%**	**20%**
Combination	3	16	13	10	20	15	13	9
All	2	14	11	9	17	17	12	11

Cambridge Reports, Inc.

NEPOOL

Preferences for Ways to Meet Future Energy Needs

	Overall	CT	ME	MA	NH	RI	VT
Increase supply	28%	30%	25%	26%	25%	38%	30%
Reduce demand	46	50	47	44	44	42	48
Combination	16	11	11	21	22	13	11
Other	10	9	16	9	10	7	11

Cambridge Reports, Inc.

NEPOOL

Perception of NEPOOL

	Overall	CT	ME	MA	NH	RI	VT
Those aware of NEPOOL	23%	15%	23%	26%	28%	20%	24%
Those thinking it is a good idea	68%	69%	59%	69%	66%	74%	64%

NEPOOL

Awareness of the Greenhouse Effect

	Overall	CT	ME	MA	NH	RI	VT
Heard of greenhouse effect	64%	53%	52%	70%	74%	63%	63%
Believe fossil-fueled power plants an important cause of the greenhouse effect	81%	78%	78%	80%	83%	83%	84%
They should be closed down	37%	41%	35%	35%	34%	32%	37%

Cambridge Reports, Inc.

NEPOOL

Most Preferred Source of Electricity (open ended)

	1986 Overall	1988 Overall	CT	ME	MA	NH	RI	VT
Hydroelectric	35%	19%	13%	42%	14%	37%	15%	42%
Solar	19	16	15	10	18	11	19	10
Nuclear	13	15	16	7	17	10	9	8

Cambridge Reports, Inc.

NEPOOL

Summary

- * Shift in perceptions of most important problems
  - nuclear power down, pollution up
- * Widespread perception of supply limitations
- * Split over demand/supply side response to the situation
- * Little direct blame of utilities for any suply limitations
- * A diffusion in perception of supply planning responsibility
- * Significant awareness of NEPOOL and most think it is a good idea

Cambridge Reports, Inc.

EXHIBIT 4

Central Vermont Public Service Corporation

Clifford E. Giffin
Vice President
System Operations

May 26, 1989

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N. E.
Washington, D. C. 20426

Re: FERC Project 2205

Dear Ms. Cashell:

The purpose of this letter is to respond to the letter from the Vermont Agency of Natural Resources ("Agency") dated April 17, 1989, and to take exception to Agency recommendations which are unjustified by the facts and inconsistent with the purposes of the Federal Power Act.

In large measure, Central Vermont Public Service Corporation ("Central Vermont" or "the Applicant") and the Agency have reached agreement on a number of issues regarding the Company's application for relicensing of the subject project. For example, agreement has been reached on: (a) a natural flow regime (true run-of-the-river operation from April 1 to June 15); (b) Fairfax and Milton drawdown limitations; (c) installation/improvement of various access areas as worked out with both the Agency and the Northern Vermont Canoe Cruisers; (d) in cooperation with Trout Unlimited, provision of releases at Peterson station to accommodate salmon fishermen.

However, there are certain issues remaining where we believe the Agency continues to adhere to positions which are simply not justified by the facts, and which would impose severe and substantial costs to our customers. For example, the Agency proposes a continuous, year-round aesthetic spillage at the four project dams that would cost our customers in excess of $23,000,000. Drawdown limitations recommended by the Agency would add over $6,000,000.

In the following paragraphs we will discuss this and other issues in which the Agency's position is unjustified and in our opinion unreasonable.

77 Grove Street
Rutland, Vermont 05701
802-773-2711

Recreation

The Agency's letter dated April 17, 1989 (p. 10) took the position that a swimming access at the present Milton Village picnic area was desirable. However, the Vermont Water Resources Board has classified this section of the Lamoille River as Class "C" waters and therefore not suitable for swimming or other water contact sports. Treated wastes from two plants discharge into the Lamoille River upstream of this area. Clearly, swimming is not desirable as long as wastes are discharged to the river.

Moreover, it is dangerous for people to swim in a head pond area where they could be drawn into the swift currents in either the power canal or over the dam. The FERC recreational representative following a site inspection during 1988 ordered us to post "no trespassing" signs in the power canal and dam areas.

The inadvisability of the Agency's proposal is further illustrated by the fact that excellent swimming is available in suitable and properly classified waters at Lake Champlain within minutes of the area and there has never been any public interest in providing a beach in the area. Furthermore, on May 12, 1989 we received a letter from Mr. Martin Inwald, New York Regional Director of FERC warning all licensees about public safety and "project-related" injuries involving dams, spillways and intakes. In a follow-up conversation our Manager of Generation had with Mr. Peter Valari, of the FERC New York office, Central Vermont was informed of two deaths that had occurred in a hydro plant's tailrace and another injury that took place when a person trespassed across a barbed wire fence, climbed a surge tank and fell to the ground.

The injudiciousness of the Agency's proposal to provide swimming access near project facilities was brought home by a near tragedy that occurred on May 19, 1989. A young boy nearly drowned while swimming at Milton near the confluence of the bypass and tailrace. A newspaper article and the Milton Town Police report on the incident are attached.

Aesthetic Spillage Flows

The Agency proposes a continuous spill release of 296 cfs at Fairfax and 160 cfs at the three lower sites. The Company strongly disagrees. The Agency's proposal is excessive, unsupported, and at best, based on an educated guess. It does not consider the impact on the ratepayer who has to suffer the economic consequences of such a decision. Nor is there any evidence that the spills proposed by the Agency represent a significant aesthetic improvement.

In a previous letter to you dated April 14, 1989 we tabulated in response 6 the exorbitant costs that were associated with the continuous release of 296 cfs at Fairfax and 160 cfs at the other stations.

For your convenience the annual energy losses and the net 30 year present value of these losses from the previous letter are as follows:

Fairfax (with add'l unit)	11,500 MWH	$11,247,000
Clarks Falls	2,700 MWH	2,641,000
Milton	6,100 MWH	5,966,000
Peterson	3,920 MWH	3,834,000
Total	24,220 MWH	$23,688,000

The above energy loss that could have benefited the Central Vermont ratepayer now and in the future will have to be made up in the form of higher purchase power costs and resultant rate increases.

It is also significant that the Fairfax Plant with its two present units would lose, by continuous spillage of 296 cfs, over 40 percent of its annual output of 21, 145 MWH or 9000 MWH per year. On a present value basis over a 30 year period, this amounts to $8,800,000.

In a conversation with Mr. Naugle of the FERC Staff, he inquired as to the impacts of 296 cfs spillage at Fairfax for various time increments. The energy losses and 30 years net present value of the energy are:

296 cfs - 4 hrs/day	1925 MWH	$1,883,000
296 cfs - 8 hrs/day	3850 MWH	$3,765,000
296 cfs - 12 hrs/day	5775 MWH	$5,648,000

With the public desire and need to conserve all forms of energy and the emerging evidence of global warming attributable, at least in part, to burning of fossil fuels, it is inconceivable that the Agency is requesting that we throw away a significant portion of the Lamoille River's energy. For example, the proposed 296 cfs over the falls at Fairfax represents spillage of the entire flow 50% of the time in the months of July, August, and September (see attached flow duration curves).

Beyond considerations of cost, there is a serious issue as to whether continuous spills represent an aesthetic improvement. Aesthetics only have meaning if somebody can see something. Here, the traffic in and around the dam is insignificant. Certainly no one can see it at night nor can any such spills be seen during Vermont's long winter due to snow

For your convenience the annual energy losses and the net 30 year present value of these losses from the previous letter are as follows:

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Beyond considerations of cost, there is a serious issue as to whether continuous spills represent an aesthetic improvement. Aesthetics only have meaning if somebody can see something. Here, the traffic in and around the dam is insignificant. Certainly no one can see it at night nor can any such spills be seen during Vermont's long winter due to snow and ice conditions, as the Agency indicated (p. 9, April 17, 1989 letter):

> "... Ice obscured visibility (of the falls) and routed flows in ways that would not occur in summer or no-ice conditions ...".

If FERC nevertheless concludes that aesthetic considerations merit some expenditure, we believe the most that should be required is as outlined below.

[illegible]

Station	Time Period	Mode of Operation
Fairfax Falls 509,700 KWH/YR	04/01 - 10/31	Spill 50 cfs over the dam during daylight hours
	11/01 - 03/31	Normal leakage
Clark Falls	04/01 05/31	Spill 60 cfs continuous
530,093 KWH/YR	06/01 - 10/31	Spill 60 cfs during daylight hours
	11/01 - 03/31	Normal leakage
Milton	04/01 - 05/31	Spill 60 cfs continuous
1,263,484 KWH/YR	06/01 - 10/31	Spill 60 cfs during daylight hours
	11/01 - 03/31	Normal leakage

In the world of aesthetics, flowing water is only one measure of beauty and its impact is highly subjective dependent on the viewer. Please consider the number of shrubs, flowers, and trees which could be planted for the substantial cost represented by this release schedule. We do not believe the Agency can support a request for, nor would our customers sanction, a spill release that would equate to about $2,000,000 per year in ornamental plantings.

In reviewing the Commission's order of May 4, 1989 for the Great Falls Project No. 9085 on the Ompompanoosuc River in Thetford Center, Vermont, we note that aesthetic spills were tied to calendar dates and maximized on weekends during the fall foliage season. The Vermont Agency of Natural Resources' report, "Waterfalls, Cascades, and Gorges of Vermont" characterized the Thetford falls site as "extremely sensitive to disturbance due to its high visual quality and uniqueness and the site could not stand the impact of the proposed development." By contrast, the same report states that the Fairfax site "would be very important without the dam", and, "the site as a whole is compromised by the dam, powerhouse, powerlines, and pipes." The report also recognizes that the Fairfax site is proposed for expansion but makes no recommendation against the expansion. Since the FERC order relating to the Great Falls site in Thetford allowed development with certain mitigation even though that site, in the view of the Agency's own consultants, would be severely impacted, we believe our aesthetic release schedule outlined above should provide adequate mitigation at the Lamoille project.

Drawdown Limitations

The Agency, in their April 17, 1989 letter, cited information from a literature search on the effects of drawdowns. Yet under the headings "Northern Pike" and "Smallmouth Bass" in their April 17 letter, their comments would indicate that the present mode of project operation has not been detrimental to these species. In fact they state that "pike were much more abundant in the 1988 sample" as compared to the 1968 sampling. Further, "data available to date shows that the project operation has not drastically affected bass populations".

We have accepted the Agency's drawdown proposals at Peterson and Arrowhead for the April 1 - June 15 period and are willing to limit operational drawdowns to four feet for the balance of the year. These agreed on limits will result in a 30 year present value cost to the company of $1,800,000.

However, for the reasons stated above, we do not believe that there is justification to limit drawdowns to two feet between June 15 and March 31. As stated in our April 14, 1989 letter, the costs on a 30 year net present value basis will be:

Lost energy	2814 MWH	$3,546,000
Uneconomic use	2814 MWH	$1,224,000
Total		$4,770,000

These costs are, of course, additive to any associated with aesthetic releases and will ultimately be borne by customers.

Request for Resolution

We believe the foregoing information demonstrates that there is not sufficient evidence to support the adoption as license conditions of the Agency's recommendations on flows, spills and reservoir drawdowns. Adoption of Agency recommendations, even on an interim basis, has no factual support and would be inconsistent with the purposes and requirements of Parts I and III of the Federal Power Act. The FERC Staff should therefore reject the Agency's positions. If, however, the FERC Staff is in doubt, either an evidentiary hearing or the institution of the Section 10(j)(2) dispute resolution process is required before the Commission can consider the possibility of issuing a new license with conditions reflecting these agency recommendations.

Very truly yours,
Clifford E Giffin
by J Douglas [illegible]
C. E. Giffin
Vice President, System Operations

CEG:JJM/mkb

Enclosures

c: Stephen Sease, Esq. - VANR
Mr. Jeffrey Cueto - Vt. DEC
Robert Bell FERC
Steve Naugle - FERC
W.J. Madden, Jr.
Rod Wentworth - Vt. F&W
J. Wallin

EXHIBIT 5

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of

Cargill Falls
Summit Hydro Power] Project No. 10038-001

COMMENTS

The following comments are offered on the above-referenced application. Development and implementation of this project should not pose any conflicts with the various natural resource, regulatory or management programs and objectives of the Department. This determination is based on repeated consultation with the applicant and the subsequent modification of project elements. These modifications consist of:

1) A minimum stream flow release of 58 cfs from the face of the dam to the bypassed reach;

2) Trash racks placed at an angle to reduce turbine mortality;

3) Suitable fishing access provided at the project site;

4) Modification of the original tailrace proposal to eliminate channelization and deepening.

The recommended minimum stream flow release is a preliminary determination based on a formula of 0.2 cfs/square mile of watershed (i.e. 0.2 * 289 = 58). This 58 cfs figure is intended solely for the maintenance of water quality and aquatic habitat. The actual required minimum stream flow release level will be determined by the diversion permit.

Also, the incorporation of a license condition for fish passage facilities at this project is also recommended. This condition would require the installation of fish passage facilities when river conditions are suitable to warrant such action, as determined by this agency.

In addition, the applicant should be aware that a diversion permit and a dam safety permit may be required for this project.

Phone:

These permit programs are administered by the Department's Water Resources Unit. Specific information regarding the first permit program can be obtained from Robert Gilmore at 165 Capitol Avenue, Hartford, 06106 or by telephone at 203-566-7220. For information on the second permit program, please contact Wesley Marsh of that unit at 203-566-7245.

Thank you for the opportunity to comment on this project. Should you have any questions on these comments, please contact Mabel Chin of my staff at 203-566-2711.

Thank you.

Dated 1/11/88

Leslie Carothers
Leslie Carothers
Commissioner

LAC/MC

cc: Director, Project Mgmt., FERC
D.F. Cooke, US EPA
R.E. Scheirer, US F&WS
DEP Dist.
Summit

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

August 10, 1989

Mr. Duncan Broatch
Summit Hydropower
92 Rocky Hill Road
Woodstock, Connecticut 06281

Re: Denial of Water Quality Certification,
Cargill Falls Hydroelectric Project

Dear Mr. Broatch:

The Department of Environmental Protection has reviewed Summit Hydropower's request for water quality certification for the proposed Cargill Falls Hydroelectric Project on the Quinebaug River in Putnam. The request was received by the Department on August 11, 1988, and relates to the September 9, 1988 application to the Federal Energy Regulatory Commission (FERC Project No. 10038-001).

Pursuant to Section 401(a) of the Federal Clean Water Act, the Department of Environmental Protection hereby denies the request for certification that the proposed project complies with the water quality standards of the State of Connecticut. The proposed project is inconsistent with the antidegradation provisions of the State water quality standards in that it can reasonably be expected to adversely affect the quality of the Quinebaug River, including:

1. the physical, chemical and biological integrity and uninterrupted instantaneous flow of the river;

2. the designated uses for the river, including recreational use and enjoyment, fish, other aquatic life and wildlife and their habitat, and other legitimate uses of the river; and

3. the aesthetic quality of the river.

Should you desire a public hearing on this denial, you may submit a written request for such a hearing to me by August 31, 1989. If you have any questions concerning this denial, please contact Tom Morrissey (566-3496 or 566-7049) in the Water Compliance Unit.

Sincerely,

Leslie Carothers
Commissioner

cc:

Senator **Conrad**. I appreciate that. We now have another vote on. And what I think I will do is just stay here and hope that Senator Bumpers has stayed there to vote. And then we will return so we can keep going.

Next we will hear from Garth Jackson, Resource Development Coordinator, Tacoma City Light. And what we are going to do, because we are on the light system, the green light is on, keep going; when the orange light, slow down, when a red light, stop. [Laughter.]

This is in keeping with the Saturday Night Live atmosphere.

STATEMENT OF GARTH JACKSON, RESOURCE DEVELOPMENT COORDINATOR, TACOMA CITY LIGHT

Mr. **Jackson**. I was president of a Toastmasters club and we used the same function. [Laughter.]

My name is Garth Jackson, Resource Development Coordinator for the City of Tacoma. And I am also representing the Public Generating Pool, which is an association of the largest municipal and public utilities in the Pacific northwest, representing over 70,000 megawatts of capacity.

These utilities like Tacoma are over 90 percent dependant on hydropower, very little thermal, and so we are very concerned about these proceedings. It is my intent here to add some reality to the theory that is going on here by providing a few concrete examples. To do this I contacted a number of the utilities in northwest and virtually everyone I talked to had a whole list of what they deemed horror stories to give. And so I have had to be very selective in picking just a few. But virtually every applicant runs into the same type of circumstances they go through.

The first one—first series of examples kind of depicts the attitude that the agencies have in perceiving their own power. The ability—the authority they have in the FERC process. One classic example comes from the City of Walla Walla, Washington, which really does exist. It is a small farming town that has been around for a number of years and their water supply has come from a pipeline that comes down from the mountain surrounding it.

Well, this water is under a great deal of pressure by the time it reaches the town. And all this pressure and energy has been wasted in the past through a series of pressure reducing nozzles. City fathers thought that here is a classic opportunity, make a little money for the town, generate a little clean hydroelectric power. And so they budgeted $50,000, which was expected to get them the conduit exemption from the FERC. The resulting conditions that they were given through this licensing process after three-quarters of a million dollars of expenditures was conditions on their permit that required them to forfeit part of their water right as a condition of having, having the energy—the generator installed. And so, when it comes down to the summer when the water supplies get low, they would have to shut down the generator and return to using the energy wasting valves as the only alternative they can to meet the requirements they are permitted.

In another example, and I am going to reduce this pretty much down to punch lines. We are working with fisheries agencies that are objecting to us installing a 12-foot high fish passage, fish ladder around a very small dam that we are proposing. And the agencies are objecting, saying that they are ineffective. At the same time, these agencies are leading another utility towards the installation of a 270-foot high fish ladder to go around a natural waterfall on a project that has existed and provided power to the northwest for over 90 years with absolutely no impact on fisheries.

Now, there has been no cost estimate done on that fish laddering yet, but there have been several cases in the Pacific northwest where requirements, mitigation requirements that are placed on utilities have approached $1,000 per fish. The agencies obviously feel no compunction to step forward and accept the economics of anything that they request. And this is just another example.

In another project that we are working on, we selected a place that was above a small waterfall that most biologists believe to be a restriction or a blockage to migrating fish. In this particular case, we selected this site with the idea that it would have no environmental impact, because the fisheries—the fish would be completely blocked.

Senator BUMPERS [presiding]. Just one second, I am sorry. It is all right.

Mr. JACKSON. All right. I was talking about an example where we picked a project site that was above a small waterfall because the biologists believed it to be a site where migrating fish would not have access to the stream.

Unfortunately, during the studies we were able to discover that two very talented fish had managed to get past this barrier. And because we found two anadromous fish in this reach, we completely redesigned the project and this operation is to totally protect all existing habitat that was in that stream.

This habitat is capable of supporting many, many fish, maybe thousands, but even so, it would be rarely, if ever used, because the waterfall would block their access to the area. The agency's response was not to accept it, but to demand that the project be further modified to create habitat beyond the existence of natural conditions. And told that if we did not comply with this condition, that they would block our 401 water certification and that we would not be able to get a license.

These are classic examples, I think, of how the agencies believe that their power has increased in the licensing process. They feel very few constraints on what they can ask a developer in a utility in this process. And they feel no obligation to justify the cost of what they are asking.

As another vein of what I picked up in my discussions with the other utilities, one of the common concerns was that the authority of FERC to resolve disputes has been greatly diluted over the years, by legislation and court actions. The classic case is the relicensing of the Cushman project. When I first came to work for the utility 15 years ago, I filed the application for relicense; it is still in process. And I expect it will be another two to three years before we can see any real significant movement on it.

Senator BUMPERS. How long ago?

Mr. JACKSON. 15 years ago. It will be at least another three years before we are completed.

Senator **Bumpers**. That also counts against the license period. Does it not?

Mr. **Jackson**. We are on annual renewals, so it does not——

Senator **Bumpers**. You are not relicensed.

Mr. **Jackson**. Anyway, in this particular case, there is 20 acres of the reservoir which inadvertently, because of a survey error, falls into national park boundaries. Now, this national park was created years after this project was completed. But now the National Park Service is using this overlap to claim total jurisdiction over the project, and saying that FERC has none. And that we must answer to them solely.

We have cases where the state is using ECPA in the state planning process, specifically, in the State of Oregon, where they have passed regulations that say a developer must prove that not a single fish may be killed in the process of construction or operation of the facility. It is an impossible task and it was designed intentionally to prevent hydroelectric development in the State of Oregon.

We also have another project where we have a letter from the state authority—state agencies stating that our project has met all their conditions and terms for water quality and they have no problem with the water quality. However, they plan to block the project anyway, because they want to impose instream flow and other conditions.

I think that it is very important that we use this understanding to realize that FERC needs the support of the Senate in establishing this authority to make these absolute decisions and to become their final arbiter in the licensing process.

Thank you.

[The prepared statement of Mr. Jackson follows:]

Testimony of Garth Jackson
Before the Senate Water and Power Subcommittee
Oversight Hearing
The Electric Consumers Protection Act of 1986
Senate Dirksen Room 366
September 28, 1989
10 A.M.

My name is Garth Jackson. Resource Development Coordinator for the Light Division of the City of Tacoma, Department of Public Utilities, a publicly-owned electric utility in the State of Washington which derives almost all of its power from hydroelectric generation. The Light Division owns and operates six hydroelectric plants, four of which are currently involved in the Federal Regulatory Commission (FERC) relicensing process. In addition, the Light Division is currently studying new hydro development opportunities involving FERC preliminary permits, applications for new licenses, and license amendments. Due to this extensive involvement with the FERC and the hydroelectric industry we are very interested in these proceedings and appreciate the opportunity to provide testimony on these matters today.

Hydropower resources provide 90% of the Pacific Northwest's electrical capability. I am representing the Pacific Generating Pool who's members include; Seattle City Light, Eugene Water and Electric Board, Tacoma City Light, PUD No 2 of Grant County, PUD of Douglas County, PUD of Chelan County, Cowlitz County PUD and have a total installed capacity of 6,967 Megawatts.

ECPA's passage has significantly increased hydro's development cost burdens and lengthened it's processing time, discouraging many utilities from taking on the risk of developing hydro.

To give you an accurate picture of the industry's concerns with the licensing process, I have gathered the following examples of ECPA experiences with resource agencies from interviews with a wide number of hydro generating utilities in the Pacific Northwest. These will illustrate how little real balance is being struck between the needs of the environment, consumers and industry.

Two basic themes emerged from these interviews. First, the licensing and relicensing process which, traditionally has been an act of negotiating the balancing concerns to determine the greatest public benefit, has changed substantially. The state and Federal environmental agencies now perceive that the process has become weighted in their favor, and they are substantially increasing the demands which they place on those projects.

Finding examples to support this statement was not difficult. Nearly every utility I spoke with had several stories to contribute, so I have had to select only a few.

Environmental Agency Demands

- My first account comes from the City of Walla Walla, Washington. The drinking water for this City flows down from the surrounding hills in a closed pipeline. By the time the water reaches the City's reservoir, it has developed a significant amount of pressure which, in the past, has been dissipated by a special valve. The City fathers recognized an opportunity to generate some power with no environmental impact, and some additional revenue for the City by replacing this valve with a small generator. They retained a consultant with an estimated budget of $50,000 for a simple application known as a conduit exemption. After dealing with the environmental agencies, the permitting costs eventually reached 3/4 million dollars, with resulting project conditions which require the City to forfeit part of the water right that is necessary to meet their water supply requirements. They are now budgeting additional funds to appeal these agency stipulations. This certainly appears to be an arbitrary exercise of authority.

- In a second example, the Washington State fishery agencies have objected to granting a license on one of the City of Tacoma's new small hydro projects, stating that fish passage measures designed to move fish around a 12-foot high dam are unproven and ineffective. However, in a concurrent relicensing proceeding, the same agencies are demanding fish studies aimed at requiring fish passage around a 270-foot natural waterfall that has always been an absolute barrier to fish migration. They also suggest that the project should be shut down at night to allow the expected fish runs to be washed over the falls instead of passing through the turbines. This project has produced low-cost power for the utility's customers for nearly ninety years with no adverse impact on fisheries. The studies detailing the cost of this proposal have not yet been conducted, but in similar cases utilities have been requested to finance mitigation projects with costs approaching $1000 per fish. The agencies apparently feel no obligation to justify these requests.

- In another example from my own utility, we began licensing a project on a small stream, well above what biologists believed to be a natural barrier to migratory fish. After two years of intensive studies, we found that two adult fish had managed to pass the barrier, while the rest of the adult fish spawned below downstream. In response to this discovery, we completely redesigned the project, streamflows and operations to preserve all natural habitat for these fish. This could be a habitat capable of supporting thousands of fish, but which would rarely, if ever, be used because of the natural barriers of migration. The agency response was to demand that the project be further modified to produce even more habitat, far beyond natural conditions, knowing full well that the resulting 20 percent increase in cost would make the project too expensive to build. Should the utility not agree to these provisions, the agency promised to withhold the water quality certificate and block the licensing process. Seven years later, the project is hopelessly mired in the courts on the licensing process with the FERC proposing to conduct its own EIS, possibly beginning over two years from now. Meanwhile, the Forest Service is being asked to declare the river "wild and scenic," not because of its aesthetic values, but solely to block licensing.

- On another project located in the Mt. Baker National Forest we have been able to reach agreements with all of the fish and wildlife agencies. However, the U.S. Forest Service, feeling its own budgetary constraints, has turned to hydro developers as a new source of revenue. They are asking that the developers pay for the district-wide recreation studies which the Forest Service is normally obligated to perform. Further, they specify recreation projects unrelated to the project as mitigation, basing their request solely on a percentage of construction costs. Finally, they are requiring ongoing payments of two percent of gross project revenues. These actions go far beyond the developer's statutory obligation to identify project impacts and provide reasonable mitigation.

FERC Authority

The second issue commonly raised hydro owners in the Northwest regards the definite need by the FERC to reassert its authority as the agency responsible for considering and balancing all competing interests, establishing policy, making decisions where conflict exists, and enforcing regulations and policies. Congress found the establishment of the FERC was necessary because experience has shown that the many single-interest participants would often leave a project hopelessly locked in disagreement without such an authority to act as a final arbitrator.

Over the years, the FERC has performed well in this roll. As concern for environmental, recreational and other similar interests have grown, the FERC has increased its emphasis in these areas. However, during this time, court rulings and legislation have fragmented the FERC's authority almost to the point of regulatory paralysis.

- As an example, the Cushman Hydroelectric Project, in Washington State (which has been in the relicensing stage for 15 years), was constructed with a 1500-acre reservoir in the 1920s. Many years after the dam was completed, one of the Nation's largest national parks, Olympic National Park, was created on lands adjoining the reservoir. Due partially to a disagreement between surveyors, it was found that 20 acres of the reservoir could reach into what is now park lands during extreme flooding. This oversight has always been considered inconsequential or even a beneficial recreational asset to the park because of the lake-frontage. Due to recent court rulings, this intrusion is now serving as the National Parks Service claim for total jurisdiction over the project in place of the FERC.

While the intentions of the Park Service and other environmental agencies may be laudable and consistent with their responsibilities, their mandates do not require them to consider loss of power, cost-effectiveness of the measures, impact on utility rate-payers, environmental impacts of alternative resources, and many of the other concerns which the FERC was created to balance and consider.

- As an example of the direct impacts of the State planning provisions on ECPA, a State of Oregon law enacted in 1985 prohibits hydroelectric development unless a developer can perform the impossible task of providing, to the State's satisfaction, that not one fish will die or "no net loss" will occur during either the construction or operation of a hydroelectric project. In a similar vein, the State of Washington (Exhibits 1) is proposing to use the State's mandated test of using waterways for the maximum public benefit, but adding the provision that this test can only be applied after 100 percent of the fish needs have been met. The States take such actions because they believe that the developers' ability to control such activity is severely limited under current legislation.

This final example is intended to illustrate the common practice of using water quality certification in the licensing process (Exhibit 2). Some years ago, Congress past legislation designed to protect the Nation's rivers from industrial pollution, entrusting the states with the responsibility of determining if Federal pollution standards have been met, commonly referred to as 401 Certification. On a project located on the Dosewallips River, the developer conducted all of the requested studies proving that the project preserved all existing fish habitat. The State agencies wanted more, but knowing that the FERC may not support their demands, they withheld the Water Quality Certification, even after admitting that the project had no effect on water quality. Without this certification, the FERC cannot even enter the dispute. Although the courts of some States have found such actions illegal, most States continue to practice it freely

These are not isolated occurrences. Almost every applicant can relate similar experience. Many more were suggested, though I have limited my discussion to those which could emphasize the issue without lengthy explanations. These anecdotes are typical of the licensing process and the approaches taken by the environmental agencies. As utilities we have a responsibility to the rate-payers to provide energy in a responsible, cost-effective manner. As these examples illustrate, we are no longer able to do that in a consistent, reliable manner. We believe that Congress needs to make it clear to the competing special interest groups and single purpose resource agencies, particularly, where the competing interests only represent a narrow segment of the public, that hydro projects cannot be expected to pay for everyone else's benefits on the water-way and still provide low-cost electricity from hydropower.

This testimony illustrates the circumstances under which utilities must work as they attempt to meet the energy needs of the Nation in a responsible manner. It is, however, important to inform Congress of the valuable contribution hydro power makes to the Nation's past and future energy needs, and of the circumstances that threaten this industry's future. Protection of the industry from further erosion requires that Congress be aware that environmental interests are heard and adequately protected by current laws and regulations. Consolidation, not continued fragmentation, of decision-making authority is necessary; and finally, it is important that the FERC exercise its conflict resolving authority, given under Section 10, in a firm and unflinching manner with the full support of this Committee and Congress, which rewrote the Federal Power Act to this end.

I appreciate the opportunity to make this presentation. I would be happy to answer any questions which you may have.

Exhibit 1 Report Joint Select Committee on Water Resource Policy, State of Washington.

Exhibit 2 Department of Ecology response to 401 permit, State of Washington.

EXHIBIT 1 Report Joint Select Committee Water Resource Policy, State of Washington

Co-Chair
Senator Scott Barr

Senator Max Benitz
Senator Frank "Tub" Hansen
Senator Ken Madsen
Senator Irv Newhouse
Senator Al Williams

Joint Select Committee on
Water Resource Policy

Co-Chair
Rep. Ruth Fisher

Rep. Forrest Baugher
Rep. Shirley Doty
Rep. Louise Miller
Rep. Curtis Smith
Rep. Karla Wilson

MEMORANDUM

TO: Members, Joint Select Committee on Water Resource Policy

FROM: Dave Monthie, Staff Counsel

DATE: August 21, 1989

SUBJECT: Draft recommendations on Instream Flow standards, planning process

Attached is a memo on instream flow setting prepared by staff, which the Executive Committee has directed be distributed to the full Committee for consideration and further action at its August 30 meeting in Olympia. The memo is in two parts: the first contains specific language modifying existing statutes in order to provide definition and clarity, and the second contains more general language outlining alternative approaches to a planning process within which the instream flow setting would occur. The memo should be viewed as an initial draft prepared principally for the purpose of generating comment and ascertaining the sense of the Committee as to what general direction to take on the subject.

The memo proposes one approach to the setting of instream flow standards. It suggests that the standard for preservation of instream resources should be "no net loss" of these resources on a regional basis, as measured by existing levels of fish habitat. Its features were drafted with the goal of incorporating concepts and policies that should be familiar to the Committee from the testimony it has heard from the Department of Ecology or other parties, and from the Committee's work on the draft instream flow policies that were contained in the 1988 report to the Legislature.

The planning portion of the memo outlines several different approaches. The first essentially retains the existing structures for water resource management in the state, but specifies a more detailed "three-tiered" process that results in both regional and state plans for water resource management. The second alternative would add a new "Water Resources Planning Council," appointed by the Governor, that would have the ultimate responsibility for water resources planning on a statewide basis, including the development of a state water resources plan. The two other alternatives, outlined only in very general terms, would devise a "decentralized" planning method along the line of the Shoreline Management Act -- where local entities would devise plans according to state guidelines and subject to state approval--or would create new regional water planning agencies responsible for planning for designated regions within the state.

Enclosed with the memo is a chart that visually compares four different approaches to instream flow setting: (1) existing practices and policies of Ecology, (2) Ecology's Preferred Alternative, (3) Alternative 4 in Ecology's Draft EIS (generally preferred by water utilities), and (4) the staff proposal. The chart is not representational--that is, it does not attempt to show different levels of water availability under the four alternatives--but is only an attempt to graphically show the way instream flow levels would be set under the different approaches.

After reviewing the proposal contained in this memo on August 30, the Committee will decide how to proceed. Among the range of options will be to pass on the proposal "as-is" to the Technical Advisory Group to respond to questions as to how it would work, to make changes to it and then send it to the TAG, or to request that staff draft an entirely new or alternative proposal.

INSTREAM FLOW STANDARDS AND PLANNING PROCESS

SUMMARY

This memorandum has two parts. Part I describes additions and changes to existing statutes that address the administrative setting of instream flow levels, and contains draft language for statutory revisions. Part II expands upon the proposed revisions to the instream flow standards in Part I. It provides several alternative approaches for implementing instream flow setting within the broader subject of the management of the state's water resources. The proposed alternatives are not mutually exclusive; elements of each could be assembled to create yet another alternative. No draft language has been prepared.

In both Parts I and II, an effort has been made to derive proposals that incorporate language or concepts that are familiar to the Committee. They attempt to develop ideas considered by the Committee last year, alternatives described in Ecology's Draft or Final EIS on Instream Resources and Water Allocation, concepts advanced in testimony to the Committee by various interest groups, or existing but unwritten policies or practices of Ecology. They are guided by the fundamental goal of attempting to eliminate or reduce ambiguities and inconsistencies in existing law, and otherwise to formulate reasonable compromises between conflicting views.

I. Instream Flow Standards

A. Statutory Inconsistencies

Three statutes (in the Fisheries Code, the Minimum Flows Act, and the Water Resources Act) provide the principal basis for instream flow regulations, and all use different terminology. One of the basic goals of the JSC has been to eliminate any inconsistencies between these statutes. In addition, the standards for setting the flow levels, and the instream resources and values to be protected, differ under the statutes, and the Committee has expressed a desire to see one consistent standard. To meet these objectives, the following statutory modifications should be considered:

1. Minimum flows: The statutory phrase used to refer to administratively set instream flow levels would, in all cases, be "minimum flows." This would replace the term "base flows" in RCW 90.54, and would be added to the Fisheries Code (RCW 75.20.050), which now refers to "a flow of water sufficient to support...."

Comment

>This would not affect substantive authority that now exists in statute for these agencies, except as may be provided in the new planning process.

2. Protected instream resources and values: All resources and values that are to be protected in the three statutes will be consolidated into the protections under RCW 90.54, so that what are protected will be "fish, game, birds, and other wildlife resources; recreational resources; scenic and aesthetic values; other environmental resources and values; navigation; and water quality." Reference will be made in the other two statutes to the provisions of 90.54, so that it is clear that the resources and values to be protected are the same under all three statutes.

Comment

>This leaves intact the provisions of 90.22.040, which requires "minimum flows or levels" to provide "adequate waters" to "satisfy stock watering requirements" on riparian lands where it does not result in "an unconscionable waste of public waters."

✳ **>This leaves intact the provisions of 90.22.030, which protects existing rights to the use and storage of water, including the operation of hydroelectric or water storage reservoir or related facility.**

B. New Definitions/Standards

The following areas are those where, generally, existing statutory standards as to the level of protection afforded instream resources would be retained, with more specificity and definition given to the statutory language.

1. Level of protection: This is clearly the most difficult issue, and involves a variety of issues. Principal among them is the question of whether the "maximum net benefits" test is applied as a part of the instream flow setting process, or after the instream flow level is set. Another major issue is whether the instream flow level should be directed toward achieving "optimum" fish habitat (using IFIM terminology), or the maintenance of existing fisheries, or insuring "survival" levels of fisheries. To resolve these issues, modifications to RCW 90.54 should be considered in the following manner:

a. Retain existing statutory terminology: RCW 90.54 already provides as a fundamental policy that the quality of the natural environment shall be protected and, where possible, enhanced as follows:

> (a) Perennial rivers and streams of the state shall be retained with [minimum] flows necessary to provide for preservation of [resources and values].

That language would be retained, with "*minimum*" substituted for "*base*," and the consolidated list of resources and values substituted for the existing recitation in 90.54.

b. *Keyed to fish*: New language will be added, as follows:

Don't go back to historical levels.

> * The minimum flows shall be set at levels that preserve *existing* game fish and food fish populations. Where the preservation of other instream resources and values may require higher levels of flow, the additional water may be allocated to those resources and values only after consideration of other possible beneficial uses, and only after application of the maximum net benefits test under (2) above.

Comment

>Current practice of the Department of Ecology is to use the IFIM methodology, which establishes the flow necessary to provide habitat for fish. This language would clearly set out that principle. It was supported by a number of parties commenting on last year's draft report.

>This language would provide a *new* standard for determination of minimum flows necessary for instream resources and values *other than fish*, and would subject any proposed allocation of water to those uses that is higher than that required for fish to the maximum net benefits test.

c. *Definition of "preservation"*: New language may be added that combines elements of the concepts "no net loss" and "optimum levels of habitat," as follows:

> Minimum instream flows shall be established that preserve existing levels of instream resources and values on a regional and statewide basis, as measured by quantity and quality of fish habitat. These instream flow levels may be set to maximize fish habitat on an individual stream, but only (1) where existing unappropriated flows are available; (2) for up to the median flow in the stream at the time of year for which the level is set; (3) where the fish populations supported by such habitat levels will exist in the stream within the reasonably foreseeable future, *either naturally or with hatchery supplementation;* (4) when consistent with the regional and state water resources plans; and (5) by utilizing the best available methodology that incorporates historical fishery data and a plan for periodic on-site verification that the flow level is supporting the predicted fish population. The department may make allocations to other beneficial uses that result in

> flows below the minimum flow level only (1) with simultaneous mitigation or enhancement within the region that provides for no net loss of the quantity or quality of the fish habitat that would be preserved at the minimum flow level, and (2) if consistent with the regional water resources plan. Minimum flows on any stream shall not be set at a level lower than that required to provide adequate water necessary for the viability of any fisheries on that stream.

Comments

>This standard would require preservation of existing fishery levels, and not historic levels. It may be desirable to have Ecology adopt a rule that would account for seasonal/annual variations or natural cycles.

>The measure of the resource would be habitat levels, which is what the IFIM methodology is keyed to now.

>Ecology would continue to be able to set minimum flows at "optimum" levels only if it met the five conditions set out in statute. A principal new requirement would be that such a level could only be set if the fisheries that require that level of habitat either exist or will exist in the reasonably foreseeable future.

>Reductions in minimum flows would only be allowed under a no net loss of habitat standard within the region, which would require some form of mitigation or enhancement.

>Even under the "no net loss" standard, the minimum level cannot drop below what is necessary for "viability" of fisheries, which is the general concept of a "survival" flow. It may be desirable to have Ecology adopt by rule a definition of this term.

>The "median flow" is the same as what Ecology has called the "50% exceedance level," which the Department has used to limit minimum flow levels, on some streams, particularly for low-flow summer months.

2. Definition/application of "maximum net benefits" test: The existing language would be retained in RCW 90.54, but amended to provide more detail as to what is to be included, and when it is to be applied, as follows:

> The criteria, methods, and procedures for application of the maximum net benefits test shall be developed and specified by rule by the department for any allocations of water. The criteria shall include environmental and socioeconomic factors, and shall incorporate any quantifiable benefits and costs that are directly

> attributable to the proposed allocation. The test shall not apply to the establishment by the department of minimum flows that are consistent with subsection (3) below, but shall apply to reservations of water and to any proposed allocation of water to instream uses at a level higher than for such an established instream flow, except as provided elsewhere in this chapter.

Comments

>The language is a variation on Ecology's EIS.

>The proposed standard does not permit "intangible" factors to be considered, and only permits consideration of "direct" costs. This is the standard followed by the Northwest Power Planning Council in its approach to cost-effective conservation measures.

3. Definition/application of "overriding considerations of public interest": Existing language in RCW 90.54 provides that "withdrawals" of water that conflict with base flows are to be authorized only "where it is clear that overriding considerations of the public interest will be served." There is no definition of that phrase, or explanation of when it is to be applied. The following may be added for clarification:

> The criteria, methods, and procedures for application of the "overriding considerations of public interest" test shall be developed and specified by rule by the department. Such a rule shall follow these general guidelines:
>
> (i) Such withdrawals when authorized for a brief period of time, such as during summer months, are to be preferred over withdrawals authorized for more than one season or year;
>
> (ii) Such withdrawals shall not result in the lowering of flow levels below viability levels, unless permitted in the relevant state or regional plan;
>
> (iii) Such withdrawals may only be permitted where the water is needed to meet public health and safety needs, where there is no feasible alternative supply, and where the applicant for the water has implemented a water conservation plan that satisfies the provisions of this chapter;
>
> (iv) The authorization for such withdrawals provides for a review of the authorization within a reasonable time to determine the necessity for continued authorization or changes to the authorization to reflect different conditions; and

Hansen: Apply to situations other than emergencies?
PAC will discuss

(v) Mitigation is provided.

Comment

>The factors cited are merely "guidelines" that Ecology would have to follow in developing a rule under the APA. They are the same general principles as the Committee approved for its draft proposal in 1988 for instream flows.

II. Planning Process

Reservations play key role in planning process

Both the Department's EIS/Preferred Alternative and the Report of the Joint Select Committee acknowledged that planning for the utilization and management of the state's water resources require greater focus and more direction than exists under current law. The five alternatives developed by the Department in its 1987 draft EIS contain a variety of planning models that could be used for future water resources planning in the state. The Committee heard a great deal about planning in its hearings conducted during 1988. Pursuant to a request from the Committee, the Department prepared a draft proposal in April 1989 that would maximize public input in the process.

Utilizing all these sources, a variety of approaches to future planning for statewide water resource management have been developed. The following sketches the outlines of such approaches. Additional detail can be developed, or portions of several models may be integrated into yet another proposal.

A. Single State Agency Planning

1. Theme: The Department of Ecology would continue to have its existing authority for allocation and planning for the state's water resources, with authority expanded. Instream flow setting would only be done as a part of overall water resources planning, done under a "three-tier" plan, which would include identification and evaluation of potential storage and conservation measures. Development of a statewide plan would have to be done pursuant to a schedule, and completed by 1995.

2. Authority: The Department's authority would be expanded to insure that other water resources-related planning is consistent with the state water resources plan. Instream flow setting authority would be defined by the foregoing statutory changes and definitions. Provision would be made to protect existing water rights.

3. Planning process: The planning would occur within the following "three-tier" structure:

a. Tier One (local): Plans would be developed by local governments, special districts, and any unique areas. They would use existing plans (e.g., land use, groundwater management, coordinated water system, watershed) to identify current and projected demand and supply, and proposed methods for matching supply to demand. Development of plans would occur with extensive public participation. This planning could be divided into development of projected demand/need (done by governments, utilities, existing entities) and development of projected supply (done on a basin basis).

b. Tier Two (regional): Regions would be created that would, to the extent possible, combine existing WRIA's without dividing any counties. The number of regions would likely fall within the 10 to 20 range. Participants should be the counties, existing regional districts or programs (e.g., PSCOG, PSWQA, Metro, regional water associations), special interest groups, and tribes. The plan would permit preferences to be established for water use within the region. The plan to be developed would adopt the "no net loss" concept within the region as to instream resources. Interbasin transfers could be proposed, subject to approval as part of a state plan, which would insure that the "no net loss" standard was adhered to.

c. Tier Three (state): Initial guidelines and standards would be developed by Ecology for the first two tiers, using statutory standards and existing procedures to the maximum extent possible. Identification of the boundaries of the regions would be made, and the adoption of regional plans would be prioritized in order to meet the goal of a statewide plan by 1995. After adoption of regional plans, Ecology would be responsible for adopting a statewide plan that integrated the regional plans. That part of the process would include input from other state agencies; consideration of tribal concerns and priorities through an established mechanism; resolution of inter-basin or inter-regional conflicts; and incorporation of statewide objectives as expressed by the Legislature (e.g., "no net loss" of instream resources; maintenance of pristine streams; restoration or enhancement of habitat on streams of statewide significance due to their importance to the citizens of the state or to their value to Indian tribes under their treaty or other rights). The statewide plan would include identification and evaluation of storage options, including surface water, groundwater, and conjunctive use. Specific conservation goals and methods could be required.

d. Indian tribes: The tribes would participate in the development of the regional plans, but would have a more structured role in the approval of the state plan. This could entail a consultation process modeled on the Timber, Fish, & Wildlife agreement, through a separate commission, or through some other mechanism.

4. Implementation: The Department would continue to have enforcement authority, as modified pursuant to suggestions m by state agencies to the Committee during 1988. In addition, Department would administer expanded or new programs authoriz by the Legislature, including (a) water banking along the lines contemplated in the Yakima saved water legislation; (b) funding of water conservation/water supply programs, bond-funded: (c) increased water transfers/water marketing, subject to clear guidelines that protect existing rights and the public interest. The plan would be reviewed every five years, or more often if needed, and recommendations made to the Legislature for revisions.

B. Water Resources Planning Council

1. Theme: A new Washington Water Resources Planning Council would be created that would have authority for statewide planning for management of the state's water resources. It would have the authority to review and approve the initial and revised versions of the state water resources plan, as developed by the Department of Ecology, and would be responsible for ongoing state water resources planning. Members would be part-time, appointed by the Governor to staggered terms, subject to Senate confirmation, and representative of geographic areas and specified interest groups. It would not have any quasi-judicial authority, except as to revisions to water resources plans.

Hansen: Make a decision process, not a planning process

— Do not think 3 tier will work. No way to resolve disputes among tiers

2. Membership: Nine members, appointed by the Governor and confirmed by the Senate, to staggered four-year terms, with a limit of eight years for any member. Members would be appointed to represent the four Department regions (one citizen member from each), and one from a list of nominees submitted for each of five categories: Agriculture, Tribes, Public/private Purveyors, Industry/Business, and Instream/Environmental. A chair would be elected by the members to serve a two-year term, and consecutive terms are not allowed. The Council would hire an Executive Director, who would hire staff as necessary.

Hansen: Look at 2 tier - state/Local

3. Duties: Would develop, with the Department and other agencies, the policies, goals, and procedures to be used in the adoption of a state water resources plan; review all rules and regulations that relate to allocation and management of state water resources; advise all state agencies on water-related planning; advise the Legislature on water resources policy; engage in ongoing water resources planning, in conjunction with Ecology and other state/regional agencies, and initiate revisions (as needed) to state water resources plan.

C. Decentralized Planning ("SMA Model")

1. Theme: Planning would be done by existing local government agencies/purveyors under guidelines adopted by the

Department pursuant to statute, along the lines of the Shoreline Management Act ("SMA"). The Department would have the ability and responsibility to protect certain resources (e.g., rivers and streams of statewide significance), but otherwise would be required to defer to local plans that meet state guidelines.

2. Authority: State law would have to be revised to specify the state standards/resources that would have to be met. Regional cooperation would be developed within existing structures or by intergovernmental agreement.

3. Implementation: The revisions to state law (i.e., re minimum flows, no net loss, maximum net benefits, overriding considerations of public interest) would guide the Department's establishment of state standards through rule. Local purveyors would make decisions as to preferences for use of water, provided that it is consistent with no net loss standard for instream resources. Deadlines would be established for completion of plans, to be submitted to various state agencies (e.g., Fisheries, Wildlife, Community Development, Health), and to Ecology for approval.

D. Regional Planning

1. Theme: New regional planning entities would be established to develop water resources management plans. These plans would be cooperative, but not enforceable. Compliance with the plans will be considered by Ecology in considering requests for appropriations of water, and may provide grounds for rejection of requests.

2. Implementation: The process would be two-tiered, with the regional entities conducting the process at a regional level, followed by some form of state integration/approval.

EXHIBIT 2 Department of Ecology Response to
401 permit, State of Washington

ANDREA BEATTY RINIKER
Director

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
7272 Cleanwater Lane, LU-11 • Olympia, Washington 98504-6811 • (206) 753-2353

June 11, 1986

RECEIVED
JUN 16 1986
PUD #1
of Jefferson County

HOSEY & ASSOCIATES
JUN 1 9 1986
RECEIVED

P.U.D. No. 1
Jefferson County Courthouse
Port Townsend, Washington 98368

Gentlemen:

Water Quality Certification Request

This letter is in response to your request for Water Quality Certification for the Elkhorn Hydroelectric Project (FERC No. 6002) Certification is hereby granted as required by Section 401 of the Federal Water Pollution Control Act, provided the following conditions are met:

1. A Short-Term Modification to the Water Quality Criteria (WAC 173-20-035) must be obtained from the Department of Ecology prior to the start of work in the waterway. This authorization is required when instream construction activities will unavoidably violate state water quality criteria (particularly turbidity) on a short-term basis. It will not be issued until the project is actually starting toward construction, evidenced by advertising for bids to construct. The application shall be submitted to the Southwest Regional Office of the Department of Ecology a minimum of 180 days before construction is scheduled to commence.

2. The request for a short-term modification shall include a plan of operation which identifies a sequence of construction events, together with provisions for mitigating water quality impacts, and a copy of the Hydraulics Project Approval secured from the Washington Departments of Fisheries and Game.

3. All construction contracts for this project shall contain specific provisions for water pollution control. The contracts shall also provide specific payment provisions for unanticipated water pollution control measures.

4. Prior to completion of the final project design, the applicant shall evaluate the future operation of the existing cleanout gate with respect to compliance with water quality standards during operation of this facility and submit a proposal which addresses the maintenance task of accumulated sediment removal.

5. A State Water Right Permit (Chapters 90.03.250 RCW and 508-12 WAC) must be obtained prior to commencing construction of the project. As a condition of this water quality certification, the project must comply with the stream flow requirements as set forth below:

January	140	cfs	or	natural flow
February	100	cfs	or	natural flow
March	200	cfs	or	natural flow
April	200	cfs	or	natural flow
May	200	cfs	or	natural flow
June	200	cfs	or	natural flow
July	200	cfs	or	natural flow
August	200	cfs	or	natural flow
September	150	cfs	or	natural flow
October	140	cfs	or	natural flow
November	140	cfs	or	natural flow
December	140	cfs	or	natural flow

While these flows are in excess of those required to maintain water quality in the bypass region, they are the flows recommend by the resource agencies and tribes for maintaining sufficient flows for the fishery resource. They are included herein as a matter of cooperation with these other agencies.

6. Specific Construction Activity Conditions

Care will be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering the water.

All construction debris will be disposed of on land so it cannot enter state waters.

All lumber treated with creosote or other protective material will be completely dry before use in or near the waterway.

No wood waste or other organic material is to be used in any fill.

Only clean, durable riprap will be used.

Dredge spoils and/or excess excavated material shall be disposed of in a manner that prevents the spoils, leachates or drainage from the spoils, from entering state waters.

All sanitary wastes generated at the power plant during construction and operation shall be discharged to the sewerage system. Solid wastes generated at the power plant during construction and operation shall be disposed of in accordance with the regulations of the local health district.

Oil spill containment and cleanup equipment shall be on hand at the power plant at all times.

Failure to comply with the conditions described above may result in revocation of this water quality certification and issuance of civil penalties in accordance with the enforcement policies and guidelines of the Department of Ecology.

Sincerely,

Clark Haberman

Clark Haberman
Regional Manager

CH:pw(WB4/5)

Senator **Bumpers**. Thank you very much, Mr. Jackson.

Mr. Adams, please proceed.

STATEMENT OF KERRY ADAMS, SENIOR VICE PRESIDENT, GEORGIA POWER CO.

Mr. **Adams**. Good morning. My name is Kerry Adams and I am a senior vice president with Georgia Power Co. Among my responsibilities is the day-to-day operation of Georgia Power's fossil and hydroelectric generating plants.

The Georgia Power Co. is a subsidiary of the Southern Electric System which is a large, integrated electric utility with some 36,000 megawatts of generating capacity. Among this capacity, hydro represents about 7 percent of the total capacity. To focus on this capacity alone though, would be to miss the point.

What I would like to do today is tell you how the Southern Electric System operates and how we use our hydro capacity. After the blackout in the northeast that occurred in 1965, the National Electric Reliability Council imposed on all the utilities that they have spinning reserves that are equal to at least the largest unit. The Southern Company maintains spinning reserves that are equal to one-and-a-half times our largest unit. We use our hydro plants to make up this spinning reserve, because it is the quickest method of generating power in replacing a large unit that you might lose during normal operation.

It is not unusual for a large unit to trip off two to three times during the year. What happens is, you think everything is going along real fine, and just like that you may lose a large unit. When you lose this unit the alternatives that you have is either to start dropping customers or to replace this source of energy from some other source. This is how we use our hydro, is to replace this source. With the hydro in the spinning reserve, on a moment's notice the load dispatcher can notify the operators at the plant; within about a minute or two these units can be loaded to replace this lost generation.

There is no other capacity or form of generation on the Southern Electric System that can do this. Our combustion turbines take at least 10 minutes to load; some of them take in as much as 20 to 30 minutes to load. A fossil generating plant can be loaded at the rate of about two to three megawatts per minute, and if the unit happens to be off-line, it can take anywhere from 12 to 50 hours to bring this unit on to restore this lost capacity.

An example I will give you—about a year-and-a-half ago, I walked into one of our hydro plants, had only been in there about two minutes, when we lost a large nuclear unit on our system. This unit represented about 1,150 megawatts of generating capacity, which at that time was somewhere in the neighborhood of 8 percent to 10 percent of the total load on our system. The operator was notified and immediately loaded the hydro units. At the same time, the load dispatcher was working with other neighboring utilities in trying to purchase emergency power to make up for this lost generation.

The alternative to that would have been to drop some customers or possibly pool your neighboring utilities down, since all utility companies are interconnected with their neighbors. As long as that load source remains there, generation will try to flow to the load source, start borrowing power from your neighbors, which begins pulling them down. It can also overload your tieline that you have with that neighbor; it may cause that tieline to trip out. If it trips, then another tieline may become overloaded, and soon you will become separated from your neighboring utilities.

We do not want to see this happen. We do not feel like it is in the best interest of our consumers to see this happen. We feel that hydro provides the reliability that we need on our system to prevent these blackouts. In addition to that, we also use hydro on the peak period on our system, which during the summer time typically occurs from 4 p.m. to 6 p.m. in the afternoon. In the winter time, we have two peaks during the day—one is from 6 a.m. to 8 a.m., the other one is from 4 p.m. to 6 p.m. We use hydro generation across this peak, because it is the cheapest method of generation and we feel that this is in the best interest of our customers.

If we are forced to change the way we operate our system, through this relicensing process, the alternative would be to build replacement power. And this replacement power would be combustion turbines which burn expensive foreign oils, other fossil fuel sources.

Thank you.

[The prepared statement of Mr. Adams follows:]

Senate Water and Power Subcommittee
Oversight Hearing
The Electric Consumers Protection Act of 1986
Senate Dirksen Room 366
September 28, 1989
10 A.M.

Testimony of A. William Dahlberg
President and Chief Executive Officer
Georgia Power Company

Delivered by Kerry E. Adams
Senior Vice President, Fossil and Hydropower
Georgia Power Company

My name is Kerry Adams, and I am Senior Vice President for Georgia Power Company. Among my responsibilities is the day-to-day operation of Georgia Power's fossil and hydroelectric generating plants.

Georgia Power is a subsidiary of The Southern Company and, together with Alabama Power Company, Gulf Power Company, Mississippi Power Company, Savannah Electric and Power Company and Southern Company Services, forms the Southern Electric System. The Southern Electric System is a large integrated electric utility system with some 35,880 MWs of capacity and is operated by using its existing generating resources in their most efficient manner.

The Georgia Power Company as we know it today began in 1904 with Morgan Falls, a small hydroelectric facility located near Atlanta. At that time this facility supplied all of Georgia Power's electric power needs. Over 90 percent of the company's needs were still being met by hydro power in 1927. During the next 30 years Georgia Power grew rapidly and by 1956, hydro power provided 25 percent of the energy needs. Today, hydro power provides approximately 7 percent of the Southern Electric System's capacity.

To focus on these percentages alone, however, is to miss the point. For today's use of hydro power is far different than it was in 1927.

Hydro power is critical for our system reliability. It is the first line of defense against blackouts such as that which occurred in New York and the Northeast in 1965. You may recall that the Northeast blackout started with the loss of one large generating unit that cascaded across the country as one utility system after another tripped off and became separated from its neighbor. Since that episode the National Electric Reliability Code has required that spinning reserves for each utility system be equal to the largest generating unit on that system. On the Southern Electric System, we have spinning reserves equal to 1.5 times our largest unit. During off peak periods we use virtually all of our hydro facilities as spinning reserve for emergencies. During peak periods we use our pumped storage facilities as a back-up for emergencies.

Hydro is used whenever a large generating unit trips and goes off-line because hydro can come on-line instantaneously and make up for the loss of the unit. It is not unusual for a large unit to trip off-line 2 or 3 times a year. Only hydro with storage capacity can come on-line on a moment's notice and compensate for the loss of, for example, an 880 MW unit. No other means of production in the Southern Electric System can do this. For instance, our combustion turbines take at least 10 minutes -- some take 20 to 30 minutes -- before they can be brought on-line. Coal-fired units that are on-line, but not fully loaded, can be brought up at the rate of 2 - 3 MWs per minute, and a cold start-up requires between 12 to 50 hours. The point is that hydro facilities are the only power production facilities that can be brought on-line on a moment's notice.

Today, the Southern Electric System is part of the nationwide grid for the production and transmission of electric power. To avoid a blackout, we want to be able to restore our system on a moment's notice without being separated from our surrounding systems. For example, the Southern Electric System sells 3000 MWs of power into Florida -- which Florida, of course, does not want to lose. Hydro's quick response helps us avoid a system breakdown. That is why we call hydro our first line of defense. Hydroelectric facilities are the quarter horses on our system; they may not run long distances, but they are quick out of the gate.

On a day-to-day basis, the Southern Electric System uses its hydro on the system peak -- that is the part of the day when demand for electric power is at its highest. In Georgia in the summertime, the peak is between 2 and 6 p.m. and in the winter, it's between 6 and 8 a.m. and 4 and 6 p.m. The Southern Electric System uses its hydroelectric system -- almost 2400 MWs of nameplate capacity -- during these peak periods. In addition, the Southeastern Electric Power Administration provides another 1250 MWs of hydro capacity, bringing the total capacity of hydropower available to the Southern Electric System at the system peak to almost 3650 MWs. During the system peak, Georgia Power's and the Corps' Carter Lake pumped storage hydro projects, with almost 1000 MWs of capacity, provide spinning reserve. Combustion turbines (which burn fossil fuels) are the alternative to using hydroelectric facilities during system peak. However, combustion turbines are considerably more expensive to operate resulting in a greater dependency on foreign oil or depletable gas reserves, not to mention the environmental consequences of such replacement facilities. The most recently - acquired combustion turbine on Georgia Power's system costs almost 6 cents per kwh to operate. In contrast, the average cost to generate our hydroelectric facilities is significantly less than one (1) cent per kwh.

In addition to the above there are several other advantages which flow from hydro power. They include the following:

(1) Tie-Line Regulation (Automatic Generation Control).

Hydroelectric generating units are uniquely situated for regulating the supply of power on an electric system to match the continuously variable demand for power because they can be "loaded", or put into increased service very quickly. Load on an electric system varies considerably throughout the day as the varying usage of residential, commercial, and industrial consumers are experienced. Large swings in load are normally met by anticipating and adjusting steam electric generation. However, hydroelectric generating units can be quickly loaded and unloaded at specific locations to adjust for transient load conditions and minor variations in the system load.

Electric systems can accomplish this load regulation without hydropower, but the ability to use hydroelectric resources for this purpose is extremely valuable. Where it is initially designed into the system, as in the case of the Southern Electric System, the loss of this hydro capability through the relicensing process would require replacement steam capacity to provide this capability to ensure system reliability.

(2) Underfrequency Loading.

The Southern Electric System is integrated into a system grid which is nominally maintained at sixty hertz. Under normal operating conditions, this interconnected system maintains this frequency level in a dependable and controlled manner.

However, there can be times when there is a significant mismatch between system load and electric supply. Under these conditions, the frequency level may increase or decrease outside of an allowable range. The Southern Electric System's electric and transmission system is equipped with overfrequency and underfrequency devices to sense this deviation in frequency. Since an uncorrected decrease in frequency below the acceptable range may contribute to a major system disturbance, the underfrequency device will automatically and rapidly increase generation of all hydroelectric units to maximum capability in an effort to offset the generation-load imbalance.

The dispersed locations of hydroelectric installations provides dependable protection against this frequency problem throughout the System's service area. Without this emergency automatic loading capability, additional reserve capacity would have to be established to assure the same level of service reliability.

(3) Voltage Stabilization.

As load conditions change throughout the system, variation in voltage at points along the transmission and distribution network is unavoidable. Hydroelectric units provide a valuable stabilizing influence to minimize voltage fluctuations in the transmission network. In the event of a voltage fluctuation due to changing loads, hydroelectric units may be quickly brought on to provide system reactive capability to raise or lower the voltage at a specific location. The Southern Electric System's hydroelectric units are generally maintained in a motoring status (i.e., spinning reserve) when not loaded, thus serving as synchronous condensers continually regulating system voltage within prescribed limits.

Utilized in this manner, the hydroelectric generating units minimize system electrical losses by eliminating or reducing the need for automatic tap changing at power transformers, a process which consumes energy. Without availability of our hydroelectric resources, expensive capacitor banks would have to be installed to provide additional system reactive capability.

(4) Steam Generation Startup.

The restart of generating plants after a blackout is predicated on supply of this restart capability by a core of hydroelectric generation. These hydro plants and the connecting transmission are adequate for supplying the emergency power required to restart the critical steam generating plants. Without the availability of this hydroelectric capacity for this purpose, the Southern Electric System would be dependent upon expensive additional back-up generation facilities or upon resources of other utilities to provide electric power for this purpose.

(5) Overloaded Lines.

Under system peak load conditions, isolated occurrences of line overload conditions have been experienced. To correct these line overload conditions, hydroelectric plants may be brought on to supply needed generation at a specific point on the system to redistribute line flows. The dispersed locations of the System's hydro plants are ideal for this purpose. Without this capability, it could become necessary to interrupt customer load, increase loading at high cost resources or take other more costly measures in order to preserve the reliability of the electric system.

Water power is clean and renewable. The hydroelectric reservoirs on the Southern Electric System are really reservoirs of energy for downstream dams. These reservoirs can be viewed as a substitute for a coal pile. Used wisely and efficiently, water power can also be used as a resource for recreation and other uses -- such as water supply and irrigation. In fact, the Morgan Falls hydroelectric facility that I first mentioned is not used so much for its power production as it is for regulating the water supply for the City of Atlanta and other water users now and into the 1990s. In addition, Georgia Power has established 19,000 acres of wildlife management areas. These lands, which also serve as sites for power plants and reservoirs, play a vital role in satisfying our energy needs. They also preserve and protect native plants and animals, some of which can no longer be found anywhere else in the state.

This is how water power is used today on the Southern Electric System. It is the first line of defense against blackouts and other system problems. It's the least expensive way to provide power during peak demand periods -- the alternative being more expensive combustion turbines which burn fossil fuels. Moreover, hydroelectric facilities are used to provide water supply and recreational benefits. For our consumers, these hydroelectric facilities provide reliable and low cost electric service because they are responsive and because they are used to meet peak demand.

To operate a large electric system like the Southern Electric System you need ample resources. You need base load generating facilities that operate continuously day and night. These are the work horses -- the nuclear and coal-fired generating facilities. However, you also need to be able to react quickly and to keep your operating costs low during system peak. We are able to do this with our hydroelectric plants. They are the quarter horses.

To operate the Southern Electric System, the person with the hand on the throttle needs to keep a sharp eye on the weather, the consumers' demand and the system reliability. As we head into the '90s, with the potential for electricity shortfalls on a national level, we need to always be prepared for the worst. We need to maintain reliability and to do so we need to have available our important hydro resources. We need to be able to call on these resources when we need them. The Southern Electric System requires a great deal of coordination to operate its system efficiently at the least cost possible. Hydro plays a very important role. If the goals of efficiency and reliability are to be changed, then the consuming public must be told.

I don't think it is in the public interest to change the way we operate our system. If we are forced to change the way we operate our hydroelectric plants through the relicensing process -- from responsive and peaking hydro facilities to run-of-river facilities -- then we will, in effect, be losing these valuable resources and will be required to construct replacement peaking facilities. Most likely these will be combustion turbines. There invariably will be concerns with siting of such facilities. (It seems that nobody wants them in their back yard.) Moreover, we may have to reconfigure our transmission systems to accommodate these changes. All of this may affect the reliability of our system. We will have a less efficient system and that is not in anybody's interest.

In closing I would like to point out that the hydro plants on the Southern Electric System have been around for many years and they have served us well. The Southern Electric System believes that the method of operating its hydro facilities is the most efficient and is in the best interest of its consumers. In this light, I believe it is appropriate to repeat the old adage -- "If it ain't broke, don't fix it."

Senator **Bumpers**. Mr. Adams, that is an interesting and instructive statement. Just one quick question. How many facilities, how many dams do you have?

Mr. **Adams**. Georgia Power——

Senator **Bumpers**. By my calculations you have about 2,500 megawatts of electric power, of hydro power. Is that correct?

Mr. **Adams**. Yes, sir. That is on the total Southern System.

Senator **Bumpers**. I understand.

Mr. **Adams**. In addition to that——

Senator **Bumpers**. But how many facilities is that?

Mr. **Adams**. There are 19 facilities in the State of Georgia alone. And there are about 72 units associated with these 19 facilities. State of Alabama has an additional amount; they have about 42 units. I am not certain of the number of plants—I mean dams that that represents.

Senator **Bumpers**. Thank you very much.

Mr. **Adams**. Yes, sir.

Senator **Bumpers**. Mr. Echeverria.

STATEMENT OF JOHN D. ECHEVERRIA, GENERAL COUNSEL, AMERICAN RIVERS, INC.

Mr. **Echeverria**. Thank you. I will try to be brief in light of the time limitations.

American Rivers is the nation's principal river conservation organization with approximately 12,000 individual and organizational members across the country. I appreciate the opportunity to testify before the subcommittee today. My testimony will focus briefly on two subjects: the commission's implementation of ECPA and the potential role of future hydroelectric development and relicensing and addressing energy needs and the problem of global warming.

First, I want to emphasize that from our viewpoint, the commission's hydroelectric program has improved as a result of ECPA. The substance of the decisions that FERC renders has improved and its practices, both formal and informal, have improved. I will skip the details of why I feel that way.

However, we do believe that the commission has not fully complied with ECPA to date. The popular catch phrase at the commission these days is balancing, which is intended to describe the process the commission uses to decide whether and on what terms to provide hydroelectric projects. And I emphasize that balanced decision-making is a worthy goal and one we support. But in our view, the commission is relying on the balancing concept to water down the goal of ECPA, to grant the states and resource agencies a significantly greater role in the hydroelectric licensing process.

ECPA was enacted in part because Congress was dissatisfied with the balance the commission, as an energy development agency, had traditionally struck between development and other values. Under the banner of balancing, however, the commission is treating state and resource agency policies as simple recommendations like other comments that received during the licensing process, and reserving to itself the ultimate decision making authority.

This concept of balancing underlies the commission's implementation of section 10(j) of ECPA, one of the act's most important provisions. That provision provides that the commission can override fish and wildlife recommendations, only if it finds they are inconsistent with the purposes and requirements of the Federal Power Act or some other law.

As stated in the legislative history, section 10(j), clearly and unmistakably upgrades the status of recommendations of fish and wildlife agencies. Further, the requirement that the commission make specific findings before overriding fish and wildlife conditions, "is intended to stress the expertise of these agencies and a need for FERC to rely on them."

At this point I would like to comment on the remark that resource agencies are single purpose agencies. In my experience dealing with hydroelectric licensing and relicensing, the fact of the matter is, that resource agencies, the U.S. Fish and Wildlife Service, the state resource agencies, take extremely seriously the value of existing and potential hydropower resources, and themselves engage in balancing and developing their recommendations for protecting resources. So therefore I do not think it is fair to say that the resource agencies, to the extent their role has been enhanced, have tilted the process unduly in favor of preservation and against development.

While the commission has announced that it intends to initiate rule making on section 10(j), the essential outlines of the commission's 10(j) interpretation are clear from its recent Henwood decision and the proceedings leading up to the commission's recent action in the Ohio River. American Rivers believes that the commission's interpretation of section 10(j) conflicts with the language of the statute of the legislative intent. The commission has not affirmatively recognized the relevance of the expertise, and experienced the resource agencies in making licensing decisions, nor has it given the required special weight to the recommendations, as the law requires.

Similarly, relying on the concept of balancing, the commission has paid little attention to the provision of ECPA requiring that the commission consider state and federal comprehensive plans and licensing decisions. Congress intended the commission to pay greater attention to other federal agency and state comprehensive plans, and in particular, state river conservation programs than it had in the past. The commission has resisted this mandate. In one instance I will cite, an applicant sought to construct a project at Great Falls on the Ompompanoosuc River in the highly picturesque village of Thetford Center in Vermont. Vermont had prepared a state waterfall study, which found that Great Falls possessed extremely rare, scenic values within the State of Vermont and should not be developed for hydropower. Despite the inconsistency between the plan and the proposed project, the commission concluded that the project, given mitigation measures developed by the commission, did not conflict with the state's comprehensive plan.

In other words, rather than acknowledging and dealing with the conflict, the commission relied on its balancing analysis to come to the conclusion that the project as modified by the commission staff should be licensed.

If I may briefly comment on just two final points. The first is the question of the existing regulatory burden imposed by the ECPA and by the commission's recent regulations and in particular the recent relicensing regulation. There is no question that the relicensing process is—and the licensing process in general has become more complex—as a result of ECPA. It is important to understand however, that rivers are perhaps unique in the number of interests that are affected, the number of users, the number of people who have an interest in rivers: for irrigation, for power development, for flood control, for fishing, for scenic enjoyment; a complex process, frankly, is needed in order to address all those issues.

Having said that, let me say that we agree with the criticism of the recent relicensing regulations as laid out on Ms. Greely's table. In one particular respect, one of the things we have urged is that the commission create a process which brings all of the issues to the table early on, and that it deal with them. As under the, very briefly, under the table, the public does not get involved in the process here, until about six feet down the line. And then at that point, the Federal Power Act and the FERC regulations provide the public can intervene and if necessary go to court to challenge the decision. We have consistently taken the position that it makes no sense to have a set—one process that involves the applicant resource agencies that goes on for years, three years under relicensing proceeding and then to bring the public in to the process when they can raise entirely new, and sometimes novel issues that were not addressed by the resource agencies. We have argued for a more, a process in which the public is included early on. Their issues are factored in. They are not necessarily fully satisfied, but they are recognized and dealt with early in the process.

We are hopeful that the final commissioning, final relicensing regulations will address that concern.

[The prepared statement of Mr. Echeverria follows:]

American Rivers

Testimony of John D. Echeverria
General Counsel

American Rivers, Inc.

on FERC implementation of
the Electric Consumers Protection Act of 1986

Before the Senate Subcommittee
on Water and Power

September 28, 1989

801 PENNSYLVANIA AVE., S.E.
SUITE 303
WASHINGTON, D.C. 20003
202-547-6900

Thank you Mr. Chairman. My name is John D. Echeverria and I am the General Counsel and Hydropower Policy Director of American Rivers, Inc. American Rivers is the nation's principal river conservation organization, with over 12,000 individual and organizational members. I appreciate your invitation to testify before the Subcommittee today.

I will focus on the two subjects which I understand are of greatest interest to the Subcommittee -- the Commission's implementation of the Electric Consumers Protection Act of 1986 (ECPA), and the potential role of future hydroelectric development in addressing the problem of global warming.

First, I want to briefly outline American Rivers' position on hydroelectric development in general. American Rivers is not opposed to hydroelectric development per se. We believe that hydropower generation makes an important and valuable contribution to the nation's electric energy supply. We believe that more rivers than are already developed for hydropower can be and will be developed for hydropower in the future.

American Rivers staff review each hydroelectric application filed with the Commission. American Rivers intervenes in numerous hydroelectric proceedings to oppose those projects we believe are not in the public interest, and to help ensure that other projects are constructed in a way that minimizes their adverse effects on the environment. At the same time, American

Rivers affirmatively chooses to not oppose and to not intervene in the overwhelming majority of hydroelectric applications filed with the Commission.

American Rivers strongly opposes development for hydropower (or any other purpose) of what is left of the best of America's outstanding free-flowing rivers. We have identified approximately 10% of the nation's river miles as potentially deserving of preservation. Ultimately, we believe that approximately 5% of the nation's river miles should be permanently protected under federal or state law.

Outstanding, free-flowing rivers are a scarce resource that has great present and even larger potential future value for American citizens. 17% of the nation's river miles have already been inundated behind dams. By contrast, only about two-tenths of one percent of America's river miles have been permanently placed off limits to development under the Federal Wild and Scenic Rivers Act. This means that development has out paced preservation at a rate of 65 to 1.

The conflict between hydroelectric development and the protection of valuable river resources is probably at its most extreme on rivers suitable for whitewater recreation. According to the estimate of the American Whitewater Affiliation, only about 1% of the nation's river miles are suitable for whitewater recreation. Whitewater boating and kayaking are among the fastest growing outdoor recreational activities in the nation. Yet high quality whitewater streams are seriously threatened by hydropower development, since the steep gradients that make them suitable for whitewater recreation also make them suitable for hydropower development.

Hydropower development also adversely affects other valuable resources. Hydropower dams block migration by anadromous and resident fish species, and often dewater long stretches of river, degrading if not eliminating fish habitat. The result is serious losses to sports fisheries as well as commercial fisheries that depend on healthy and productive rivers. Rivers are also an especially dramatic and popular feature of the landscape. Hydroelectric dams seriously degrade these scenic values.

In addition to working to protect outstanding pristine rivers from new hydroelectric development, American Rivers is working with numerous citizens and state and local organizations to take advantage of the opportunities provided by hydroelectric relicensing. Between now and 1993, over 200 existing hydroelectric projects are scheduled to be relicensed by the Commission. Most of these projects were constructed with little if any regard to their impact on fisheries, recreation, or other natural values. Relicensing provides a chance to enhance degraded river stretches by obtaining improved flows below dams and powerhouses, by obtaining effective upstream and downstream fish passage on rivers slated for fisheries restoration, and by obtaining improved access to rivers. Many of the projects scheduled to be relicensed are close to population centers and therefore improvements at existing hydroelectric projects will benefit a broad spectrum of the public.

I. ECPA Implementation

American Rivers believes that ECPA is best characterized as a work in progress. ECPA has resulted in improvement in the Commission's hydroelectric licensing program. On the other hand, we are disappointed with certain aspects of the Commission's present implementation of ECPA. In some respects, we believe the Commission is violating both the letter and spirit of ECPA. We hope that these hearings will help to bring the Commission into full compliance with the law.

On the positive side, it is no longer an unwritten law that the Commission simply will not reject a hydroelectric proposal based on adverse environmental effects. In 1987, the Commission rejected an application to construct a project at Kootenai Falls in Montana, because the project would have destroyed the scenic beauty of the Falls, seriously degraded an outstanding trout fishery, and interfered with the religious practices of the Kootenai Indians.1 In 1988, the Commission rejected four projects in the Owens River Basin in California.2 And earlier this month, the Commission voted to reject three projects proposed for the Ohio River. In this important respect, the Commission has respected Congress' mandate that it give "equal consideration" to

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1. In re Northern Lights, 39 FERC P 61,352 (June 25, 1987).

2. In re Joseph M. Keating, 42 FERC P 61,030 (January 20, 1988).

power generation, on the one hand, and to recreation, fish and wildlife, and other values, on the other. Also, consistent with the spirit of ECPA, the Commission has launched an effective public outreach program to inform the public about the Commission's licensing and relicensing programs. The Commission has made a genuine effort to include the entire public in its meetings. Most recently, the Commission began a series of public meetings to explain its new relicensing regulations. One meeting was held in Maine in July, another in Vermont earlier this month, and future meetings are planned for Michigan, Wisconsin, New York, and other states.

Finally, we commend the Commission for conducting, after some delay, a comprehensive set of rulemakings to help define the standards and procedures of ECPA. Prior to ECPA, the Commission relied extensively on orders issued in specific adjudicatory proceedings to develop important Commission policies. Rulemaking proceedings provide a far greater opportunity for public input, and give the Commission a better understanding of the public concerns at stake. We particularly commend the Commission for its fine job in developing rules to implement the stuningly complex provisions amending section 210 of the Public Utility Regulatory Policies Act.

Nonetheless, American Rivers is concerned about the fashion in which the Commission is or appears to be implementing various provisions of ECPA. I will discuss each of our major areas of concern in turn.

A. State and Federal Comprehensive Plans. First, the Commission has adopted an unreasonable interpretation of its responsibility under ECPA to consider state and federal agency "comprehensive plans" in making its licensing decisions. Section 10(a)(2)(A) of the Federal Power Act, as amended by the ECPA, requires the Commission, in making a licensing decision, to consider:

> The extent to which the project is consistent with a comprehensive plan (where one exists) for improving, developing, or conserving a waterway or waterways affected by the project that is prepared by-
>
> (1) an agency established pursuant to Federal law that has the authority to prepare such a plan; or
>
> (2) the state in which the facility is or will be located. 16 USA 803(a)(2)(A).

The legislative history of this provision demonstrates that Congress intended the Commission to pay greater attention to other federal agency and state comprehensive plans, particularly state river conservation programs, than it had in the past. The Commission has continuously resisted this mandate.

First, the Commission adopted an interpretive rule that defined "comprehensive plans" so narrowly as to exclude virtually every existing river plan in existence. In Order 481, issued on October 20, 1987, *see* 52 Federal Register 39905 (October 26, 1987), the Commission defined comprehensive plans as follows: "In order for a state or Federal plan to be considered comprehensive it must reflect the preparer's own balancing of the competing uses of a waterway, based on its data and relevant public use considerations." In other words, to be entitled to Commission consideration, a plan had to address, among other things, navigation, power development, energy conservation, fish and wildlife, recreational opportunities, irrigation, flood control, water supply, and "other aspects of environmental quality." This demanding definition of a comprehensive plan apparently excluded from section 10(a)(2)(A) every river planning effort other than those of the State of Maine and the Northwest Power Planning Council.

This rule drew strong protests from six states, the Northwest Power Planning Council, and a large number of national conservation groups. In addition, eight United States Senators3 wrote a letter to the Chairman of the Commission criticizing the narrowness of the rule. Virtually all of those opposing the rule contended that the term "comprehensive plan" encompassed, at a minimum, the 30 state scenic river programs across the country.

In response to this public outcry, the Commission, on April 27, 1988, adopted a revised definition of comprehensive plans. See 53 Federal Register 15802 (April 27, 1988). The Commission's new definition of comprehensive plans included any river plan or program that "[i]s a comprehensive study of one or more of the beneficial uses of a waterway or waterways," and "[i]ncludes a description of the standards applied, the data relied upon, and

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3. Senator Dave Durenberger, Senator Rudy Boschwitz, Senator Bob Packwood, Senator Howard Metzenbaum, Senator Daniel Evans, Senator Alan Cranston, Senator Robert Stafford, and Senator Brock Adams.

the methodology used in preparing the plan." The Commission stated that its revised definition "will ensure that all state and Federal river programs and policies will be fully considered in the Commission's licensing decision."

Today, the Commission is threatening to take away with the right hand what it granted with the left hand. The Commission now treats most river plans and programs as entitled to consideration under section 10(a)(2)(A). As of April 27, 1989 the Commission had formally recognized 441 different comprehensive plans. 318 of these plans are state plans, representing virtually every state in the nation. But the Commission has acknowledged only a handful of conflicts between state comprehensive plans and proposed FERC projects. More importantly, in those instances in which conflict clearly exists, the Commission has simply overridden the state plan.

In a handful of orders, the Commission has rejected efforts by the State of Idaho to exercise some control over hydroelectric developments through its water rights laws. For example, in In re Arrowrock Dam Project, 46 FERC P61,385 (1989), the Commission licensed the proposed Arrowrock Dam Project on the Boise River over Idaho's objection that the project interfered with the Idaho State Water Plan. Despite the conflict with the state plan, the Commission concluded that the project was "best adapted to comprehensive development of the Boise River."

In another instance, involving the State of Vermont, the Commission ignored a clear conflict between a state conservation plan and a proposed project. See In re Richard Balagur, 47 FERC P61,193 (1989). The applicant sought to construct a project at Great Falls on the Ompompanoosuc River in the picturesque village of Thetford Center. As the Commission recognized, Vermont had prepared a statewide Waterfall Study which found that Great Falls in Thetford Center possessed extremely rare scenic values within the state of Vermont and should not be developed for hydropower. The Waterfall Study was included among Vermont's comprehensive plans submitted to the Commission under section 10(a)(2)(A). Despite the inconsistency between the plan and the proposed project, the Commission concluded, in a cryptic footnote, that the project, given the mitigation measures required by the Commission, did not conflict with the state's comprehensive plan. In other words, rather than acknowledging and dealing with the conflict, the Commission simply relied on its traditional public interest balancing analysis to come to the conclusion that the project, as modified by the Commission staff, should be licensed.

Section 10(a)(2)(A) does not, of course, grant the states or other federal agencies a unilateral veto over projects subject to FERC jurisdiction. By the same token, Congress clearly did intend for the Commission to think long and hard before overriding the preference of a state or another federal agency that a particular river be preserved in its natural state. As reflected in the legislative history, section 10(a)(2)(A) was intended to require the Commission, once it recognizes that a comprehensive plan exists, explicitly to consider "[t]he extent to which the project is consistent with [the] comprehensive plan." To carry out this mandate, the Commission must first be willing to acknowledge when there actually is a conflict with a river plan. If there is a conflict, the Commission must decide whether, in light of the severity of the conflict, to license the project. Before overriding the prerogatives of the state or another federal agency, the Commission must explain its reasons in writing; in the words of the provision's chief sponsor: "FERC must specifically consider and address that concern and respond in writing in order to give a State assurance that its desires to limit hydro development are seriously and adequately considered." 132 Cong. Rec. S4140 (April 11, 1986). To date, the Commission has not given any life to this mandate.

B. Section 10(j)

One of the most important provisions added to the Federal Power Act as a result of ECPA is section 10(j). Section 10(j) directs the Commission to include in each hydroelectric license conditions for the protection of fish and wildlife, and their associated habitat, affected by the development, operation, and management of a project. In general, section 10(j) directs the Commission to base its fish and wildlife conditions on the recommendations it receives from the National Marine Fisheries Service, the United States Fish and Wildlife Service, and State fish and wildlife agencies.

Section 10(j) also provides that if and when the Commission believes a fish and wildlife recommendation may be inconsistent with the purposes and requirements of the Federal Power Act "or other applicable law," the Commission must "attempt to resolve any such consistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies." If the Commission ultimately decides not to adopt the agencies' recommendations, the Commission must publish findings, together with a statement giving the basis for the findings, that (1) adoption of the agencies' recommendations would be inconsistent with the Federal Power Act or other applicable law and (2) the conditions adopted by the Commission actually provide adequate and equitable protection for fish and wildlife resources and their habitat.

The statutory language and the legislative history clearly indicate that Congress intended to change the way the Commission deals with fish and wildlife issues. As stated in the conference report, the new provisions of both section 4(e) and section 10 were adopted by Congress "with a view of not merely codifying existing practice" at FERC, "but to change and improve it." Section 10(j) "clearly and unmistakably upgrades the status of recommendations" of fish and wildlife agencies. The language requiring the Commission to make specific findings before overriding fish and wildlife conditions "is intended to stress the expertise of these agencies and the need for FERC to rely on them." H.R. Rep. No. 99-934, 99th Cong., 2d Sess. 23 (1986).

The Commission has publicly announced it intends to initiate a rulemaking setting forth its interpretation of and procedures for implementing section 10(j). We understand that a proposed rule will be published for comment in the near future. Nonetheless, based on the Commission's recent Order in In re Henwood Associates, Inc., 47 FERC P 61,174 (May 2, 1989), and the proceedings leading up to the Commission's recent action on proposed projects in the Ohio River, the basic outlines of the Commission's position on section 10(j) are already clear.

American Rivers believes that the Commission's interpretation of section 10(j) conflicts with the language of the statute and the legislative intent. The Commission has not affirmatively recognized the relevance of the expertise and experience of the resource agencies in making its own decisions. Nor has it given any special weight to the recommendations of fish and wildlife agencies, as clearly mandated by section.

The key to the Commission's effort to water down section 10(j) is the Commission's interpretation of "inconsistency" between resource agency recommendations and the Federal Power Act. A finding that there may be an inconsistency is the condition for the Commission to initiate the section 10(j) consultation process, and a finding that there is an inconsistency is the condition for the Commission actually to reject agency recommendations. The Commission has ruled that an inconsistency exists when (1) "a determination is made [by the FERC staff] that there is not substantial evidence to support the agency recommendation and it is therefore inconsistent with law;" and (2) "the agency recommendation, taken as is, otherwise impermissibly conflicts with the balancing of beneficial public uses of the waterway or other relevant statutory mandate of the Commission." Henwood, at 61,591.

The substantial evidence test is not an appropriate basis for the Commission to make a finding of inconsistency under section 10(j). The substantial evidence test is a standard for judicial review of agency fact finding, not the standard for Commission consultations with an "expert" resource agency upon which it is supposed to rely. Furthermore, the FERC staff and the resource agencies generally rely on the same set of information in attempting to devise appropriate fish and wildlife conditions. In many if not most instances, that information would support either the FERC staff's or the resource agencies' recommendations under the relatively deferential substantial evidence standard. Ultimately, the issue is not which agencies' recommendations would survive judicial review under the substantial evidence test, but which agency has been designating by Congress as having the appropriate expertise to select the best outcome from a range of possible options. In ECPA, Congress selected the resource agencies.

It appears that the Commission is using the substantial evidence test as a weapon to impose its preferred conditions on the resource agencies. As reflected in the recent Ohio River proceedings, when there is a disagreement between the agencies and the Commission on proposed recommendations, the Commission places the burden on the resource agencies to come forward with new information to support the agencies' viewpoint. Furthermore, the Commission has determined that the Commission, not the "expert" resource agencies, get to decide when sufficient information has been collected upon which to base a reasoned decision. In sum, not only are the agencies required to justify to the Commission the bases for their expert conclusions, they are deprived of the right to help shape the evidentiary record from which the recommendations will be drawn.

The Commission's second branch of the test for inconsistency -- including the phrase "impermissibly conflicts with the balancing of beneficial public uses" -- is so broad as to effectively eviscerate section 10(j). Under the banner of balancing, the Commission takes the position that it, and it alone, can finally determine whether and on what terms to license a project. That position, however, wipes out the Commission's obligation to defer to the expertise of the resource agencies and to rely on the agencies in formulating proposed conditions. In effect, the Commission takes the position that its balancing responsibilities under sections 4 and 10 of the Federal Power Act supersede its statutory obligation to base license conditions on the recommendations of fish and wildlife resources. In the end, the Commission's position amounts to saying that section 10(j) is, in substance, a nullity.

The Commission has gotten section 10(j) backwards. ECPA establishes a presumption that Commission licenses should incorporate fish and wildlife recommendations developed by the resource agencies. Those recommendations cannot properly be rejected by the Commission simply because it would prefer a different balance between resource protection and power generation and the Commission's own conditions would survive judicial review. Section 10(j) requires more -- that the Commission find an actual inconsistency between the resource agency recommendations and the Federal Power Act or "other applicable law." Thus, the Commission can properly reject the recommendations of a resource agency only if there is a direct conflict with some other provision of the Federal Power Act, such as conditions prescribed pursuant to section 4(e) or some other specific provision of the Act.

C. Relicensing Regulations.

On May 17, 1989, the Commission issued final regulations governing the relicensing of existing hydroelectric projects. American Rivers and numerous other organizations have filed requests for rehearing on the regulations. We understand that the Commission intends to resolve the requests for rehearing in the near future. Two issues deserve the Committee's attention.

Public Participation. The first issue is the degree to which the public will be excluded from the so-called pre-filing consultation process preceding the actual filing of an application for a new license for an existing project. A relicensing is normally expected to consume about five years. The Commission contemplates that, during the first three years, a dam owner will engage in extensive consultation with resource agencies to identify the issues that need to be addressed in relicensing and to prepare the studies necessary for an adequate license application. Under the Federal Power Act, the dam owner must file its application at least two years prior to he expiration of the original license. During this two year period, the Commission reviews the results of the consultation process, conducts any independent analysis it believes necessary, and prepares the new license. Under the Commission's intervention rules, a member of the public would be entitled to become a formal party to the proceeding only after a completed application is filed with the Commission.

In commenting on the proposed rule, American Rivers and numerous other conservation organizations contended that the Commission should require dam owners to consult not only with resource agencies but also with interested members of the public. We contended that the public should be included because some members of the public have substantial knowledge to contribute during the consultation process, and their interests would not always be represented well, and in some cases not at all, by the resource agencies. Also, we contended that the public was entitled to participate in the consultation process because the Commission intended pre-filing consultations to serve not only as an information-gathering process, but also as a decision making process. In particular, in Stage II of the consultation process the Commission intends for the applicant and the agencies to actually negotiate the terms of the proposed license. It is patently obvious that the Commission intends to rely very heavily on the results of those negotiations in its own decision making. Both for reasons of fairness and administrative efficiency, we contended that the public should be allowed to participate in those negotiations, and should not be forced to sit on the sidelines until the negotiations are concluded and a complete application filed with the Commission.

In the final rule, the Commission responded in part to these concerns by requiring dam owners to include the public in Stage I of the consultation process, to permit the public to help identify relevant issues and to help define the scope of necessary resource studies. As the Committee is aware, approximately 175 projects are scheduled to be relicensed in 1993, and these many projects are the focus of the greatest public interest. Unfortunately, by the time the Commission promulgated its final relicensing regulations, in May, 1989, virtually all of the 175 dam owners had completed Stage I of the consultation process. Thus, in effect, the public had already been deprived of the opportunity for public input promised by the regulations. To address this problem, the Commission directed dam owners to hold special meetings for the public to obtain the public's views on relicensing. These meetings were required to be held between July 3 and October 1, 1989. While American Rivers has been directly involved in only a handful of these meetings, we understand that they have provided a useful, and apparently uniformly non-adversarial, opportunity for public input.

American Rivers and other conservation groups are disappointed, however, that the Commission has so far declined to require public involvement in the rest of the consultation process including, in particular, the Stage II negotiations. Frankly, we believe that the Commission's present position cannot be interpreted as anything other than hostility to the public in general and in particular to the interests that boaters, anglers and others bring to the consultation process. It simply makes no sense to exclude the public from the consultation process when the public is clearly entitled to raise its concerns at the intervention stage. It would be far more efficient, and fairer, for the dam owners and the resource agencies to learn about and to begin to address public concerns earlier rather than later.

Annual Licenses. Another major concern is the suggestion in section 16.18 of the final regulations that the Commission intends to routinely issue an annual license incorporating the terms of the original long-term license in those instances when an original license expires before the Commission has issued a new long-term license for the project. Given the large numbers of projects scheduled for relicensing, there is a substantial likelihood that a significant number of projects will not be relicensed on schedule. The likelihood of this occurring will be even greater if some dam owners adopt a strategy of delay rather than accept Commission or resource agency recommendations that they find objectionable.

American Rivers believes that, to ensure that the objectives of relicensing are achieved as rapidly as possible, and to minimize the potential benefits of delay, the Commission should, whenever possible, insert appropriate new terms and conditions in any annual licenses it issues. We recommend that the Committee use the opportunity of this hearing to encourage the Commission to aggressively utilize its authority to add new terms and conditions in annual licenses.

D. Energy Conservation.

One set of provisions in ECPA that appear to be a virtual dead letter are those relating to energy conservation. Section 10(a)(1) of the Federal Power Act now requires "equal consideration" of, among other things, "energy conservation." In addition, section 10(a)(2)(C), added by ECPA, provides that the Commission, in deciding whether or on what terms to issue a license, shall consider:

> In the case of a State or municipal applicant, or an applicant which is primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration facilities or small power production facilities), the electricity consumption efficiency improvement program of the applicant, including its plans, performance and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of relevant State regulatory authorities applicable to such applicant."

In order to implement these provisions, we understand that the Commission collected from all utilities subject to its jurisdiction copies of their energy conservation programs. In addition, Commission licensing orders generally contain a very cursory analysis, usually consisting of no more than one or two paragraphs, describing the energy conservation program.

Beyond these steps, it is unclear how, if at all, this provision has altered the Commission's approach to such issues as need for power or energy conservation as an alternative to hydropower development. So far as we know, the Commission has never either rejected or accepted a hydroelectric proposal, or incorporated any particular term or condition in a license, based on its consideration of an applicant's energy conservation program.

The Commission's failure to vigorously implement this provision is to be regretted, especially since energy conservation is widely viewed as one of the most attractive options for addressing the problem of global warming while avoiding the adverse environmental consequences of many types of new energy development.

II. Hydroelectric Development and Global Warming

American Rivers understands that the Subcommittee has an interest in the potential contribution of new hydropower development in the United States to the solution of the global warming problem. American Rivers believes that new hydropower development can and should go forward. To the extent that new development actually displaces fossil-fuel electric generation, hydropower would help to address the global warming problem.

However, American Rivers would oppose any effort to weaken the current modest level of environmental controls on hydroelectric development, or to establish new public subsidies to encourage hydroelectric development, for the purpose of addressing the global warming problem. Under any circumstances, future hydropower development will only make a small contribution to the nation's total electric energy supply. If environmental controls were loosened, the resulting incremental energy generation would be modest, and achieved at a high environmental cost.

The only type of hydropower development severely restricted by ECPA is small projects constructed at new dam sites under the Public Utility Regulatory Policies Act (PURPA). But whether or not strict environmental controls are retained for these projects, they can make only a minuscule contribution to the nation's electric energy supply.

In July 1988, FERC published "PURPA Benefits at New Dams and Diversions: Final Staff Report Evaluating Environmental and Economic Effects." This report was prepared at Congress' direction pursuant to section 8(d) of ECPA. The report analyses the number of new dam hydroelectric projects with a capacity of less than 80 megawatts likely to be constructed under varying economic and environmental scenarios. As explained in greater detail in Exhibit A, the data in the report reveal that, if current ECPA restrictions are retained, additional generating facilities will displace only 3/100's of one percent of U.S. fossil fuel usage. If present environmental safeguards are discarded, the additional generating capacity would represent only 8/100th's of one percent of present fossil-fuel usage. Thus, the displacement of fossil fuel generation that could potentially occur if ECPA's present restrictions were eliminated is very small indeed.

On the other hand, the report demonstrates that eliminating the ECPA restrictions would have a devastating effect on the best of America's remaining natural rivers. The report identifies numerous types of streams that are off-limits to development under current law but that would be reopened to PURPA new-dam developers if the ECPA restrictions were eliminated. They include: streams with anadromous fish runs; state-designated outstanding trout streams; rivers included in state river conservation programs; and rivers with unique recreational values according to the 1982 National Park Service Nationwide Rivers Inventory, a listing of the approximately 2% of the nation's river miles that appear to qualify for protection under the Wild and Scenic Rivers Act. In other words, the cost of displacing 5/100th's (8/100th's minus 3/100th's) of the nation's fossil fuel usage would be a full-scale assault on many of the most important natural, free-flowing rivers in America.

To be sure, the new energy that could be generated from hydropower increases significantly if the universe is expanded to include old dams suitable for redevelopment and large dams that do not qualify for PURPA benefits. However, these types of projects are today subject to only modest environmental restrictions. Moreover, there are few remaining large dam sites available in the United States that do not raise serious environmental or other problems.

The conclusion that future hydroelectric development in this country cannot make a significant contribution to solving global warming appears to be confirmed by recent authoritative reports describing U.S. policy options to address this problem. These include, for example, the Environmental Protection Agency's recent draft report to Congress, "Policy Options for Stabilizing Global Climate" (February, 1989), and the Congressional Research Service's report entitled "Controlling Carbon Dioxide Emissions" (March 9, 1989, revised April 25, 1989). Significantly, the EPA report mentions hydropower only in passing, to note that good development sites are limited and environmental and social impacts of large scale projects need to be considered carefully. The Congressional Research Service report does not even discuss increased hydropower generation as an alternative for controlling carbon dioxide emissions. The lack of emphasis on hydropower in these reports is consistent with the conclusions of other research reports on the subject of global warming.

A variety of factors, other than environmental restrictions, explain the limited future potential of hydropower in the United States. In part, the reduction in the level of development activity compared to the early years of this decade reflects the levelling off of energy prices. In addition, Congress, fortunately, has eliminated costly public subsidies that spurred hydropower development. Earlier in this decade, hydropower developers received a 21% tax credit on their investments as well as the benefit of accelerated depreciation. Today, tax reform has essentially eliminated tax breaks for hydro developers. In the early years of the implementation of PURPA, many states set PURPA rates in excess of actual avoided cost. Over the last several years, PURPA rates across the country have fallen more closely in line with actual avoided costs.

But other, more fundamental factors explain the reduction in the potential for future hydropower development. Most importantly, hydropower is a an extremely mature industry. The best sites for hydropower development have already been exploited. Since the nation's colonial days, dam builders have been working to harness the power of rivers. Today, there are over 2000 FERC-licensed hydroelectric projects. Since there are hundreds of unlicensed hydroelectric projects, and many projects include more than one dam, the total number of hydropower dams across the country is even larger.

Furthermore, over the last decade, developers have worked hard to pursue what remains of the nation's hydropower development potential. Between 1978, the year of enactment of PURPA, and 1985, FERC received 6500 hydroelectric applications. While most of these applications did not result in constructed projects, many projects did get built. According to the Commission's, "Hydroelectric Power Resources of the United States" (January 1, 1988), between 1984 and 1988 the number of hydroelectric plants in the United States grew from about 1550 to over 2000, an increase of 30%. Following this intensive period of development, it would be unreasonable to suppose that numerous viable development sites remain to be exploited.

If and when energy prices rise, as we expect, sites not now suited for development will become more economically attractive. Thus, hydropower should contribute a gradually increasing amount to the nation's energy supplies. However, new hydropower development, even if supported by new, costly subsidy program, will not provide a major new source of electricity, or a significant part of the solution to the problem of global warming.

* * *

Thank you for the opportunity to present this testimony today. I would be happy to respond to any questions you may have.

American Rivers

AMERICAN RIVERS AMERICAN WHITEWATER AFFILIATION

SMALL HYDRO PROJECTS AT NEW DAMS AND DIVERSIONS CANNOT MAKE A SIGNIFICANT CONTRIBUTION TO THE NATION'S ELECTRIC ENERGY SUPPLY

March 1989

In July 1988, the Federal Energy Regulatory Commission (FERC) published "PURPA Benefits at New Dams and Diversions: Final Staff Report Evaluating Environmental and Economic Effects." The report analyses the number of hydroelectric projects with a capacity of less than 80 megawatts likely to be constructed under the Public Utility Regulatory Policies Act (PURPA), under varying economic and environmental scenarios. The report concludes by stating that additional electric generating capacity expected to result from future PURPA development at new dams and diversions is "small" but nonetheless "represents a domestic renewable resource of energy that is valuable" (page xxvi).

This statement is completely false if it is intended to suggest that future PURPA projects at new dams and diversions could produce either a meaningful decline in fossil fuel usage in the United States or a reduction in the nation's dependence on imported fuel. Data included in the FERC report demonstrate that, if present statutory environmental safeguards are retained, the additional generating facilities could displace only 3/100th's of one percent of the United States' present fossil fuel usage. Even if present environmental safeguards were discarded, the additional generating capacity would represent only 8/100th's of one percent of present fossil-fuel usage.

These additions to the nation's electric energy resources are not merely "small" they are minuscule. PURPA development at new dams and diversions could not have any discernible impact on global warming or the serious national problems of acid rain, dependence on foreign sources of energy, or the negative balance of trade. The bases for these conclusions are explained in greater detail below.

OVERALL CONVENTIONAL HYDROPOWER RESOURCES[1]

Figure 1 shows the total developed and undeveloped hydropower resources recently reported by FERC[2]. Overall FERC reports nearly one-half of the

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[1] Developed and undeveloped hydropower at existing dams, new dams and new diversions. Does not include pump storage.

[2] Hydroelectric Power Resources of the United States, Developed and Undeveloped, January 1, 1988, FERC-0070.

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Exhibit A

resources developed or under construction. During the period between 1984 and 1988, developed resources increased by 4,000 MW installed capacity (6 percent increase) with an additional 1,400 MW installed capacity under construction (2 percent increase)[3]. Figure 1 shows that one-third of the FERC reported undeveloped potential is at existing dams[4].

Figure 2 shows the undeveloped hydropower resources as reported by FERC. For existing dam sites, 9,500 MW or 12.8 percent of the undeveloped resources have either FERC issued licenses/exemptions or a federal authorization for development. The existing dam sites with a license or authorization are 38 percent of the total undeveloped resources at existing dam sites[5]. On the other hand, for new dams only 700 MW out of a total 49,700 MW (1.5 percent) have either been licensed or authorized for development. These data show that nearly all of the licensed/authorized development (93 percent) is being pursued at existing dams. As discussed below, results from the FERC report show that most potential new dam development under PURPA is not financially feasible.

FINANCIAL FEASIBILITY OF NEW DAMS AND DIVERSIONS UNDER PURPA

Figure 3 shows undeveloped resources at new dams and diversions as reported by FERC. Projects greater than 100 MW are 70.5 percent of the undeveloped resources and development of these sites do not qualify for PURPA. Thus, these sites were not included in the FERC study. The financial feasibility of these sites is unknown. The remaining undeveloped potential which are sites less than 100 MW were studied[6]. For the sites studied, 12,900 MW out of a total of 14,600 MW (88 percent) were found not to be financially feasible. With the environmental protections mandated by the Electric Consumer Protection Act of 1986 (ECPA), the potential at financially feasible sites is reported as 690 MW. Without ECPA protections, an additional 1,020 MW potential for a total of 1,710 MW or 12 percent of the potential resources studied were found to be financially feasible.

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[3] Hydropower installed capacity does not result in the same energy output as fossil fuel capacity rating. The energy produced by a MW of installed hydropower capacity is approximately one-half the energy output of a MW of a fossil fuel plant's capacity rating. Furthermore, dependable capacity for hydropower typically ranges between 20 to zero percent of the installed capacity. Dependable capacity for a fossil fuel plant is 100 percent of its capacity rating.

[4] Information on existing dams obtained by phone conversation with FERC staff.

[5] Licensed and authorized is 9,500 MW out of total of 25,000 MW (9,500 MW plus 15,500 MW).

[6] Precisely, only projects less than 80 MW qualify for PURPA. The ECPA study assumed that a site with the potential between 80 MW and 100 MW would be built at 80 MW to qualify for PURPA.

POTENTIAL FOSSIL FUEL DISPLACEMENT FROM NEW DAMS AND DIVERSIONS

Figure 4 shows that 0.1 percent (precisely 0.08 percent) of the present fossil fuel usage in the United States would be theoretically displaced by the potential development at new dams and diversions under PURPA without the environmental protections of ECPA. With the environmental protections of ECPA, 0.03 percent of present fossil fuel usage would be displaced.

FOR FURTHER INFORMATION: Contact Steven L. Taylor, American Whitewater Affiliation, 721 Boundary Avenue, Silver Spring, MD 20910, or John Echeverria, American Rivers, 801 Pennsylvania Avenue, S.E., Washington, D.C. 20003.

FIGURE 1

HYDROELECTRIC POWER RESOURCES

DEVELOPED AND UNDEVELOPED

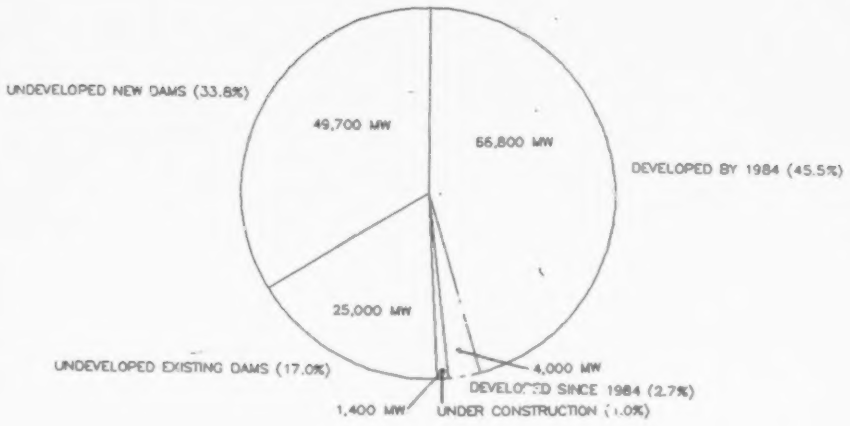


FIGURE 2

UNDEVELOPED HYDROELECTIC RESOURCES

EXISTING VERSUS NEW DAMS

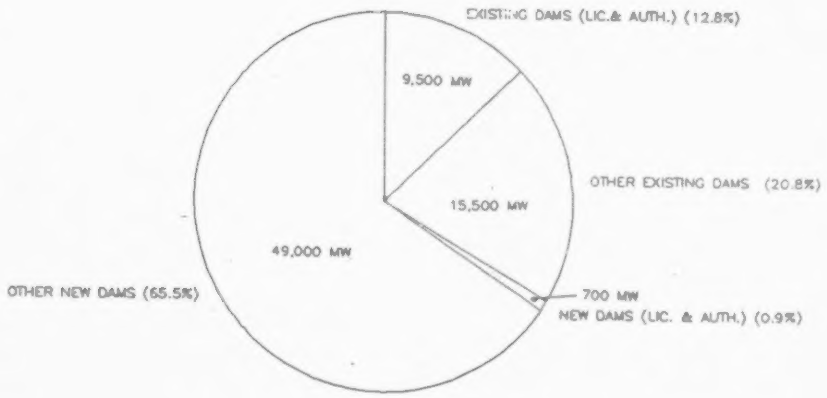


FIGURE 3

UNDEVELOPED HYDROPOWER RESOURCES

FINANCIAL FEASIBILITY OF NEW DAMS

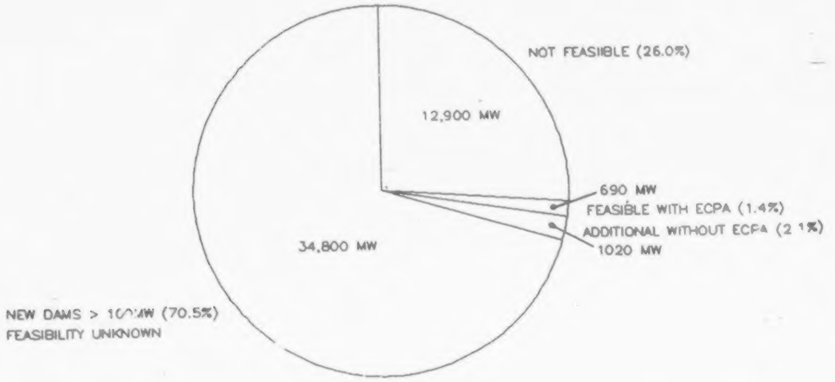
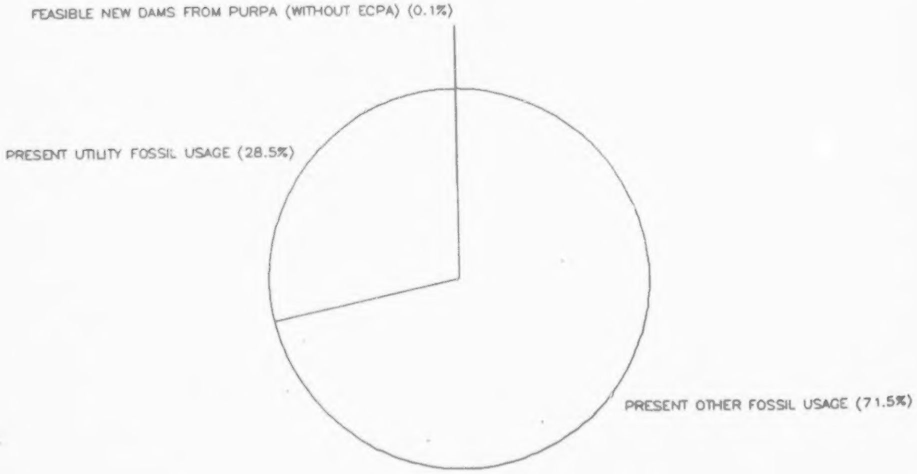


FIGURE 4

FOSSIL FUEL DISPLACEMENT FROM NEW DAMS



Senator BUMPERS. I think that is a perfectly legitimate observation.

Mr. Conrad.

STATEMENT OF DAVID R. CONRAD, WATER RESOURCES SPECIALIST, NATIONAL WILDLIFE FEDERATION

Mr. CONRAD. Thank you, Mr. Chairman. I appreciate the opportunity to present the views of the National Wildlife Federation on the Federal Energy Regulatory Commission's hydroelectric licensing process.

Senator CONRAD. Mr. Chairman, if I may. I do have a first cousin named David Conrad. But this is not my first cousin. I do not know if there has been substitution——

Senator BUMPERS. You are the only one that took my comment seriously; I was just jesting.

Mr. CONRAD. Senator, I live in, here in Washington, in Maryland. And I have received phone calls from your brother? Is that right? Or cousin?

Senator CONRAD. First cousin.

Mr. CONRAD. I have seen—and I think he has received some for me, too.

Senator CONRAD. It is not the first time our chairman has been confused on the facts that are before the——

Senator BUMPERS. Just relax. We are not going to hold it against you.

Mr. CONRAD. Okay, thank you.

Mr. Chairman, I will just make one comment here about the table in front of us. What you are looking at is the way our communities decide how public water resources are going to be used. It appears complicated. Actually, most energy facility siting is even more complicated. The point is many people, many jurisdictions have vital interests in water resources. This process reflects that and is deliberative.

Many licensees traverse that process quite well. Hundreds of licenses have been issued and the licensees receive licenses for more than one-third to one-half a century. The actual effect of ECPA was to make the grant of those rights and the associated profits nearly permanent. To some that is very attractive. Point made.

I will summarize a couple of the points in my testimony and then move on to questions if you like. Although it is nearly three years since ECPA's passage, we believe it is too early to tell whether ECPA's environmental requirements will provide the environmental protection that is needed. We believe the current level of hydroelectric power regulation is fully necessary considering the significant and broad range of environmental risks that this kind of development can entail. We believe the commission has improperly implemented several aspects of ECPA and other licensing requirements, thus increasing the risks.

We believe the huge crush of relicensing applications expected to be filed with the commission in the next 27 months represents an important national opportunity to improve the overall beneficial uses of numerous waterways. We remain deeply concerned about the abilities of the commission and the natural resource agencies to process these applications in a timely and professional manner.

Finally we reject a notion that appears to have been offered by some developers that environmental requirements should be lifted and financial incentives should be adopted to stimulate new hydropower development. Such environmental—or such a move would result in significant and I believe entirely unnecessary environmental damage, without commensurate energy or environmental benefit.

Mr. Chairman, one issue that has been alluded to in testimony, up until now, or up to this point, but not maybe directly addressed, is the issue of regard to assuring that proper studies are conducted before licensing. We are concerned that the commission is deviating substantially from what we believe Congress intended in ECPA. This has emerged as an increasingly critical area of concern, particularly, in difficult and controversial licensing or relicensing proceedings.

ECPA directs fish and wildlife agencies to make recommendations for the protection and enhancement of fish and wildlife resources under section 10(j). If the proper studies are not done, resource agencies are put at a distinct disadvantage in attempts to make responsible recommendations. The commission ultimately controls what studies will be ordered. In our testimony we refer to the recent Ohio River Basin case, where the major issues arose between essentially six federal and resource agencies and the commission staff on the need for passage and water quality studies in advance of licensing—I am sorry, fish passage and water quality studies.

We believe the commission's resolution to put off these studies until after licensing represents an unfortunate breakdown of the commission's consultation process. The fundamental problem probably emanates from the fact that there is limited reliable data about large warm water streams, like the Ohio, for purposes of predicting impacts of major multiple dam hydropower development. It is particularly controversial now that huge public and private investments under the Clean Water Act are beginning to pay off in terms of fishery restoration and revitalization.

Mr. Chairman, we are also concerned about the commission's application of the NEPA process. We believe that the commission relies often too—too often on environmental assessments, with findings of no significant impact, premised upon a degree of mitigation of environmental damages instead of following the environmental impact statement process, and full public participation as envisioned in the NEPA implementing regulations of the president's council on environmental quality.

While the commission has licensed hundreds of hydropower projects in recent years, the commission has prepared very few EIS' in the five year period from fiscal year 1985 through essentially the present. The commission averaged only two hydropower EIS completions each year. These cases cause us serious concern, that the commission is insufficiently budgeting for NEPA compliance.

Our greatest concern, obviously, is the approximately 48 relicensings that are currently pending and nearly 200 relicensing applications which are expected to be filed between now and the end of

1991. We expect most of those applications will probably be filed right at the end of 1981, they will come in a big bunch, I think the commission will not be able to handle them with the current staffing. And that is somewhat contrary to this impression I think the earlier panel suggested.

Well, I think we should get right to the questions.

Thank you.

[The prepared statement of Mr. Conrad follows:]

Working for the Nature of Tomorrow.
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Statement of

David R. Conrad
Water Resources Specialist

For Oversight Hearings
Regarding the Implementation of the
Electric Consumers Protection Act
by the
Federal Energy Regulatory Commission

before the

Subcommittee on Water and Power
of the
Committee on Energy and Natural Resources

United States Senate

September 28, 1989

I am pleased to have the opportunity to present the views of the National Wildlife Federation on the Federal Energy Regulatory Commission's environmental review process and whether this process, as implemented, is producing hydropower licensing decisions that are in the overall public interest. The National Wildlife Federation is the nation's largest conservation organization with over 5.8 million members and supporters and 52 state and territorial affiliate organizations. Because the actions of the Commission often have significant and profound impacts on the environment, the Federation has actively participated in a number of FERC's hydroelectric licensing proceedings and rulemaking dockets.

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General Summary

Although we believe the Commission is not aggressively implementing the environmental provisions of Electric Consumers Protection Act (ECPA), it is probably too soon to pass final judgement on whether the 1986 ECPA amendments will prove effective. We believe the current level of hydroelectric power regulation is fully necessary considering the significant and broad range of environmental risks that this kind of development can entail. We believe the Commission has improperly implemented several aspects of ECPA and other licensing requirements, thus increasing these risks. We believe the huge crush of relicensing applications expected to be filed with the Commission in the next 27 months represents an important national opportunity to improve the overall beneficial uses of numerous waterways. We remain deeply concerned about the abilities of the Commission and the natural resource agencies to process these applications in a timely and professional manner. Finally, we reject the notion offered by some developers that environmental requirements should be lifted and financial incentives should be adopted to stimulate new hydropower development. Such a move would result in significant and entirely unnecessary environmental damage without commensurate energy or environmental benefit.

The 1986 ECPA amendments were intended to expand the breadth and improve the quality of FERC's licensing and relicensing deliberations.

The 1986 ECPA amendments to the Federal Power Act constituted the first real updating of the environmental provisions for hydro licensing since the program was established in 1920. Congress recognized that in numerous instances the Commission had failed to properly consider matters which for the most part were already a part of the agency's mandate, especially those identified in key court decisions. Congress also recognized that in recent decades, water resource development decisions have become increasingly complex, requiring greater attention to energy conservation, fish and wildlife habitat, recreational opportunities, and other aspects of environmental quality. These factors were appropriately enumerated in Section 4(e) as purposes intended to receive equal consideration with power and development purposes during hydro licensing. Congress also required the Commission to recognize fish and wildlife agencies' expertise in making recommendations for fish and wildlife protection, to recognize state and federal agency comprehensive planning, to limit the availability of PURPA pricing incentives for new dams or diversions on sensitive or state protected rivers, and to place a greater emphasis on compliance with the terms of licenses.

It is important to bear in mind the enormous number of conflicts that arise with inappropriately sited hydropower projects. Besides construction impacts and loss of free-flowing streams, examples of other issues that arise are:

**the need to set minimum and maximum instream flows and controls on water level fluctuations,

**impacts on fisheries and wildlife (eg. turbine mortality, blockage of spawning, migration, and reproduction, loss of many types of habitat, impacts on endangered and threatened species, and multi-state recovery plans such as salmon restoration),

**impacts on water quality--with wide ranging effects, including possible limitation on downstream expansion of municipal treatment works and industrial development,

**impacts on erosion, sedimentation, and dam safety,

**impacts on public and commercial recreational uses--including boating, rafting, kayaking, fishing, hiking and a host of other such uses, many of which are rare or unique to an area or region,

**impacts on river areas important for historical or archaeological purposes or Native American religious and cultural values,

** and impacts on many other existing or planned uses of waterways and watersheds, such as municipal and agricultural water supplies, flood control, navigation, even timber management.

An example of how wide potential impacts range is the large number of small hydro projects proposed for development at waterfalls. These often involve a high degree of controversy because falls are important tourist attractions, or in at least one case I know of, the falls are a central feature in an urban redevelopment plan involving major federal grants.

Although it is nearly three years since ECPA's passage, it is too early to tell whether ECPA's environmental requirements will provide the protection that is needed from the above kinds of impacts. The relicensing regulations were only completed in May of this year, and the Commission has not promulgated critical regulations implementing the fish and wildlife provisions of Section 10 (j). Additionally, the moratorium placed on PURPA's applicability to new dams and diversions will not be lifted until January of 1990.

The Commission has failed in many instances to adequately implement ECPA's requirements and other environmental requirements in hydropower licensing.

The Federation is deeply concerned that the Commission is deviating substantially from what we believe Congress intended in the passage of ECPA. In many instances the Commission continues to ignore and inadequately implement environmental requirements in hydro licensing. The following are several key issues of concern to the Federation.

1. The Commission has crippled the ability of fish and wildlife and other resource agencies to carry out their roles under ECPA, the Fish and Wildlife Coordination Act, the Clean Water Act, and other statutes, in some cases, by failing to require necessary studies in advance of licensing.

One of the most critical problems in implementation of FERC's hydro licensing program is the identification of studies that are required for processing of applications by both the resource agencies and the Commission. In no case has this been more apparent than in the recent Commission decision to issue 16 licenses on existing Corps of Engineers navigation dams on the Monongahela, Allegheny, and Ohio Rivers and their tributaries.

In this case, the Commission consolidated 24 license applications for 19 dam sites into a single proceeding to consider the cumulative effects of licensing on some 500 river miles of the Ohio basin. Each of the resource agencies involved--the U.S. Fish and Wildlife Service, the West Virginia DNR, the Ohio DNR and Ohio EPA, the Pennsylvania Fish Commission, and the Environmental Protection Agency--repeatedly requested that FERC order specific baseline studies to be conducted on water quality (particularly dissolved oxygen) and fish passage in order to adequately complete the NEPA analysis and allow the agencies to make their statutory recommendations for measures to protect fish and wildlife under Section 10(j). The Commission never ordered the requested studies. The agencies believed the limited data used by the Commission were wholly inadequate on which to base their 10(j) recommendations. Thus, several of the agencies made no recommendations on critical resource issues.

The Commission has voted to issue 50-year licenses for each site. Staff of the U.S. Fish and Wildlife Service have indicated that annual fish mortality at each dam could run well above 15% of fish passing the dam and that hydro projects may severely limit needed river aeration. It is unclear whether measures to mitigate the impacts can be found. Resource agencies say the studies are necessary to determine the impacts more accurately in order to select appropriate mitigation measures. A fundamental issue is the limited value of previously collected data on fisheries and water quality for these large warm water streams like the Ohio that now are being restored through huge public and private investments required by the Clean Water Act.

The Ohio River case represents an extremely unfortunate breakdown of the Commission's consultation process, the NEPA process, and the Section 10(j) dispute resolution process.

The Commission continues to improperly rely on post-licensing studies. Contrary to the holding in *Confederated Tribes and Bands of the Yakima Indian Nation, et. al. v. FERC*, ("the Rock Island case") the Commission is still very much inclined to put off studies and unresolved issues until after licensing. In the Ohio River proceeding, the Commission staff has recommended post-licensing fish mortality and water quality monitoring studies and possible mitigation measures, if practicable.

In another West Virginia relicensing case with which I am familiar, the Commission once again required post-licensing studies regarding fish entrainment (mortality) and downstream flow ramping rates to protect fish and wildlife and to protect public safety. The study plans were developed as required, but certain studies and the implementation plans have yet to be completed nearly two years after the license was issued. The license issuance in this case has been pending rehearing before the Commission for nearly a year.

In the Rock Island case, the 9th Circuit court was very explicit as to why environmental issues must be resolved prior to licensing and not afterwards. The Court noted:

> "If these issues must be examined and resolved prior to licensing, the licensee has an incentive to submit all the required data as quickly as possible. The same incentive is not present in the procedure used here where fishery issues are deferred to the future."

We ask the Committee to urge the Commission to complete the necessary studies prior to licensing in order to assure that licenses are complete and based on a sound record.

2. The Commission has failed to expedite relicensing proceedings for projects with already expired licenses to resolve issues and avoid abuses of annual licenses.

The Commission has a considerable backlog of projects for which licenses have expired, but licensees have failed to complete new license applications or studies ordered by the Commission. These have resulted in annual license extensions well beyond the license expiration date. In Washington state, for instance, the license for the Glines Canyon dam expired in 1976, and the project has operated under annual licenses for some 13 years. The project blocked important salmon runs on the Elwha River when it was originally built, causing enormous salmon losses to the people of the region. Numerous agencies have called for fishery mitigation studies, including the feasibility of dam removal. The Federation believes that such major delays in addressing relicensing issues should not be tolerated.

In another case at Kingsley Dam on Nebraska's Platte River, deficient relicense applications were filed in 1984 and the project licenses expired in 1987. The projects have operated on annual licenses since. These projects have had and continue to have substantial adverse impacts on the endangered whooping crane and other endangered and threatened species. Several key baseline studies must be conducted to determine the past impacts as well as the continuing impacts in order for fish and wildlife agencies to specify measures for endangered species protection and for other fish and wildlife protection, mitigation and enhancement measures. In May of this year, the D.C. Circuit Court found the Commission was delaying possible resolution of these fish and wildlife issues by failing to address them in the annual license process. (See *Platte River Whooping Crane Trust v. FERC, 876 F. 2d. 109 (D.C. Cir.* 1989.)) In view of the large number of upcoming relicensings, the Federation urges the Committee to monitor ongoing cases with annual licenses to assure that the Commission orders the necessary studies in a timely fashion to avoid unnecessary delays in relicensing proceedings while projects operate under annual license.

3. The Commission's NEPA compliance is inadequate and the Commission has underbudgeted for environmental reviews.

The Federation is concerned that the Commission is inadequately applying the National Environmental Policy Act (NEPA) process in its hydro licensing. We believe that the Commission too often relies on environmental assessments with Findings of No Significant Impact premised upon some degree of mitigation of environmental damages, instead of following the environmental impact statement (EIS) process and full public participation as envisioned in NEPA implementing regulations of the President's Council on Environmental Quality (CEQ). The Commission did not formally adopt these regulations until December of 1987 after heavy pressure from CEQ, many federal resource agencies, Congress, and the public.

While the Commission has licensed hundreds of hydropower projects in recent years, the Commission has prepared very few EIS's. In the five year period from FY 1985 through FY 1989 the Commission averaged only two hydropower EIS completions each year. In a number of instances where the need for an EIS has been raised in court challenges, the courts have found the Commission negligent and voided the licenses or exemptions. These cases cause us serious concern that the Commission is insufficiently budgeting for NEPA compliance.

Our greatest immediate concern is with the Commission's plans for the environmental review of approximately 48 relicensings that are currently pending and nearly 200 relicensing applications which are expected to be filed between now and the end of 1991. The Commission recognizes in its FY 1990 Budget Request that it is anticipating receiving "many more applications requiring the preparation of environmental impact statements". In public meetings the Commission has also indicated that at least thirty river basins nationwide have multiple licensing and relicensing actions where large and complex environmental effects can be anticipated. The relicensings are generally for projects licensed in the 1920's and 1930's when attention to environmental factors was low to non-existent. We believe that most, if not all of these multiple licensing actions, as well as many other individual licensing actions, will require environmental impact statements in the next few years. The cost of EIS's range from $250,000 for some individual projects to more than $1 million for major basinwide studies, depending on their complexity. Many of these actions will be controversial and will require scoping and broad participation by the public. The Commission and Congress should budget significantly more for these environmental reviews than the current levels, or the licensing process will be seriously delayed.

4. The Commission has not given meaningful recognition to state and federal agency comprehensive plans.

One of ECPA's major reforms was the requirement for the Commission to "consider the extent to which" a proposed project is consistent with comprehensive plans prepared by states or federal agencies empowered to prepare such plans. We are concerned that the Commission's regulatory treatment of this provision has frustrated the intent of Congress to encourage comprehensive river planning.

To date the Commission has flip-flopped on what it would consider to be such a comprehensive plan for purposes of Section 10(a)(2) of the Federal Power Act. In October of 1987 the Commission's Order No. 481 defined a comprehensive plan so restrictively that it excluded virtually any such plan that has been prepared. After protests from states and conservation organizations, the Commission reversed itself and in Order 481A issued in April of 1988, revised its definition to include virtually any plan prepared by states or federal agencies. The Commission now formally recognizes more than 400 plans. It has indicated it will give relatively less deference to single purpose plans and greater deference to multiple purpose plans. The Commission has since made "no conflict" findings in nearly every license it has issued. The state of Vermont has requested rehearing on a license issued by the Commission which the state believes severely conflicts with its comprehensive plan to protect unique waterfall areas.

The Federation believes the major element missing in the Commission's program for incorporating state and federal agency comprehensive plans is much clearer guidance on the kinds of planning efforts that will receive substantive deference by the Commission. Numerous states and agencies appear willing to expand their planning efforts for a host of resource management reasons but they have been frustrated by the murky signals being sent by the Commission on how it will make its considerations. The Committee should encourage the Commission to clarify its handling of comprehensive plans.

5. The Commission has weakened water quality protections and soured working relations with state governments through automatic waivers of state certification authority under the Clean Water Act.

Last year, the Senate and House sought enactment of legislation to reverse the retroactive application of Commission Order No. 464 which had the effect of automatically waiving state water quality certification authority for some 226 pending hydroelectric licenses. Unfortunately, the Congress failed to enact the legislation at the close of the last session, although both bodies passed identical language in differing legislative packages. The Federation believes that state certification is a critically important element in hydropower licensing and that the Commission seriously erred in unnecessarily eliminating the ability of states to carry out their statutory role. We continue to urge the Congress to restore state certification authority, especially in those instances where license decisions have not yet been made.

6. The Commission has complicated environmental reviews by failing to make draft license conditions available for public review in advance of licensing.

A number of difficulties have been encountered in implementing ECPA's Section 10(j) dispute resolution process between the Commission staff and fish and wildlife agencies over recommendations to protect fish and wildlife. Misunderstandings that have arisen during these negotiations have highlighted the need for open discussion of draft license conditions. The Commission's current practice is not to reveal the specific wording of license conditions until a license is actually issued. Often parties to the proceeding are surprised at wording which considerably varies from what they believed had been agreed upon earlier. This problem, as well as issues relating to participation of other parties in dispute resolution, will have to be addressed in FERC's upcoming 10(j) rulemaking proceeding.

Similarly, the wording of proposed license conditions that are intended to mitigate significant adverse environmental effects identified in Commission environmental assessments should also be made available for public review and comment at the same time as the EA's. The public could then gauge more accurately in advance of licensing whether the conditioning will provide adequate mitigation. Such a change to improve ECPA and NEPA public participation would require only a policy change on the part of the Commission.

The recent slowdown in numbers of license applications filed at the Commission is due primarily to a weak power market and not to environmental requirements.

In response to assertions that have been made by hydropower interests that ECPA has caused a significant slowdown in hydropower development, we call the Committee's attention to a portion of the FERC's July 1988 report on PURPA Benefits at New Dams and Diversions which was ordered by ECPA. Two figures from that report (attached) show supply curves for new dam hydroelectric projects in the five regions of the country at various energy cost levels. These graphs show that at current energy prices, the number of financially feasible new dams or diversion projects is extremely small.

The Federation believes that during the decade of the 1980's, many developers speculated on increasing energy prices when formulating hydroelectric project proposals. It is obvious that these price increases did not materialize, nor did the demand for some of their projects. That is not to say that hydropower has made no contribution to electric generation over the past decade. Some 8,700 MW of new hydropower capacity has been added (including federal projects) and many of the less-controversial projects, especially at existing damsites, have been placed into service.

Because hydropower is a mature industry and many of the best sites have already been developed, it is reasonable to assume that those that remain are the more costly sites for new installed capacity. Many of these sites on smaller streams would be unable to supply power year round and would reach full capacity production only during rather short wet seasons. Also, much new hydropower "potential" exists in areas such as the Pacific Northwest and California which are already well endowed with hydropower supplies. These factors significantly affect the demand for hydropower as well.

The hydropower supply curves do show, however, that at higher power prices, more projects can be expected to become financially feasible. As energy prices rise in the future, we believe more hydropower projects will be developed. We believe that it would be entirely inappropriate, however, to relax environmental standards to encourage further speculation on uneconomical projects.

Congressional oversight is welcome.

We appreciate the Committee's oversight of the Commission's hydroelectric licensing program. We hope the Committee and the Congress will continue to monitor the activities of the Commission and resource agencies closely to assure that ECPA's intent is realized and that appropriate attention is afforded all environmental values in hydroelectric licensing. I once again appreciate the opportunity to present the views of the National Wildlife Federation. I would also be happy to respond to any questions the members of the Committee may have.

PURPA BENEFITS AT NEW DAMS AND DIVERSIONS

Final Staff Report
Evaluating Environmental and Economic Effects

Docket No. EL87-9

Federal Energy Regulatory Commission
Office of Hydropower Licensing

July 1988

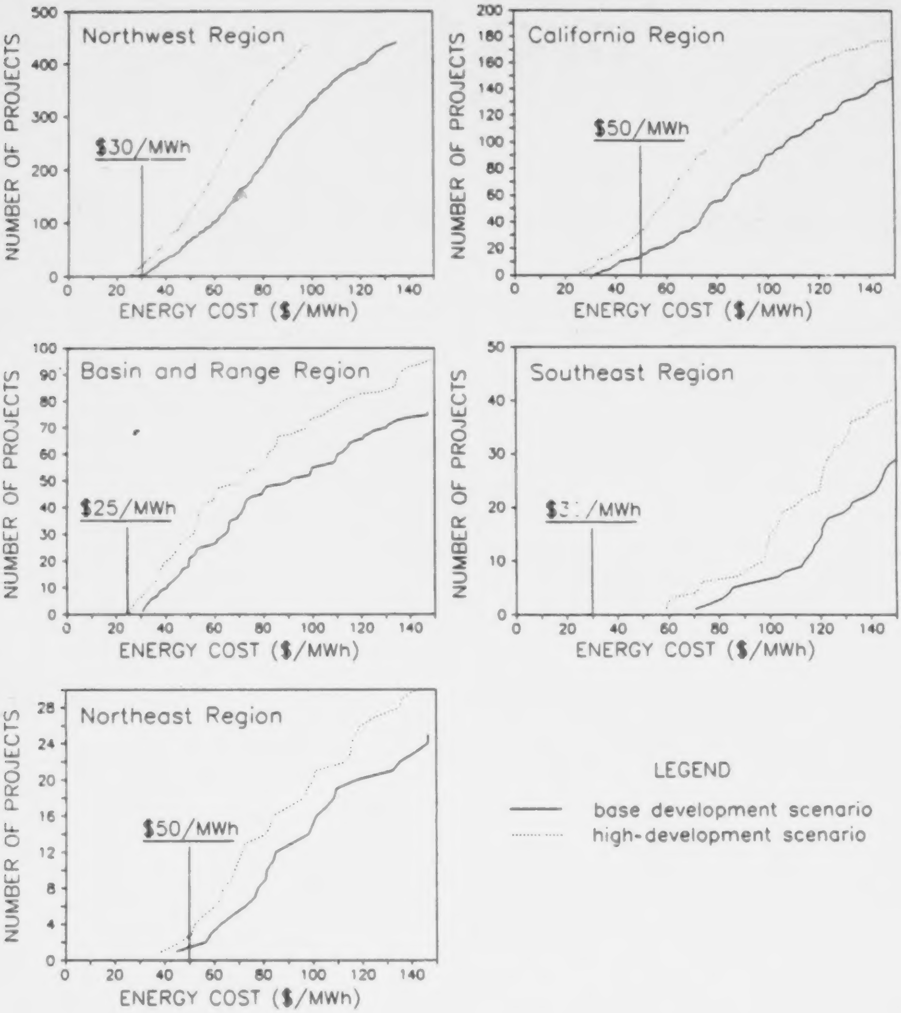

Figure 2-2. Regional hydroelectric supply curves at new dam and diversion projects and the short-run marginal energy cost thresholds defining viable hydropower projects under alternative 1 (see Appendix C for details.)

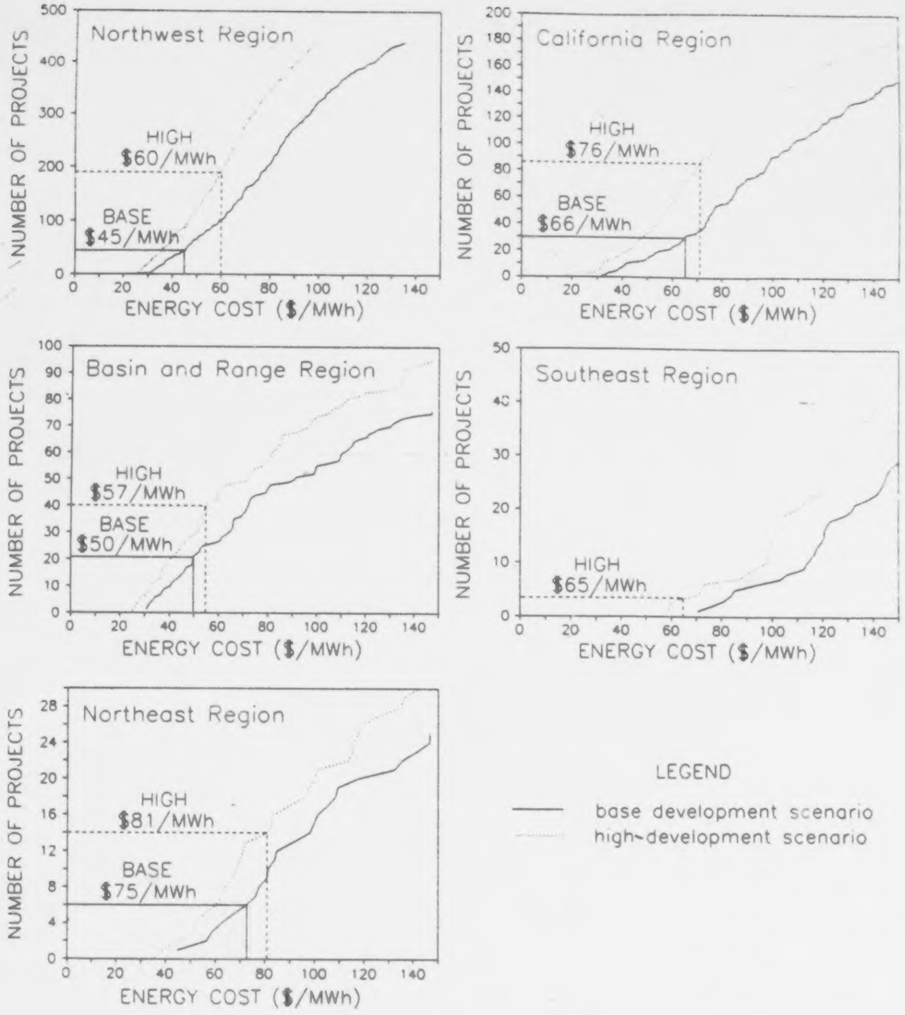

Figure 2-3. Regional hydroelectric supply curves at new dam and diversion projects and the full avoided-cost thresholds defining viable ECPA-affected hydropower projects under alternatives 2 and 3 (see Appendix C for details).

Senator **Burns**. Thank you.

We have one last witness on this panel. Mr. Lenssen.

STATEMENT OF NICHOLAS LENSSEN, RESEARCHER, WORLDWATCH INSTITUTE

Mr. **Lenssen**. Thank you, Mr. Chairman.

My name is Nicholas Lenssen and I am a researcher at the Worldwatch Institute.

Senator **Bumpers**. You are going to have to pull your microphone up closer, please.

Mr. **Lenssen**. OK.

Senator **Bumpers**. Thank you.

Mr. **Lenssen**. My name is Nicholas Lenssen. I am a researcher with the Worldwatch Institute, a nonprofit, independent environment research institute. It does not take positions on specific legislation.

I have, however, conducted extensive research on energy technologies and polices, with particular emphasis on the environmental impacts of energy systems. And I am particularly concerned about the global environmental damage being caused by today's largely fossil fuel-based energy systems.

The controversy we see here today surrounding hydropower development is not surprising. Increasingly, environmental, rather than economic limits, have become the chief constraint on expanding national and even global energy systems, and in the future we will see those energy planners become more occupied with examining environmental costs and benefits.

There is a basic problem, however in weighing on a single scale environmental problems from different generating technologies, as technologies and their problems vary as well. Nuclear power plants create radioactive waste; coal plants can cause air pollution and acid rain; geothermal can lead to water pollution, and hydropower threatens free flowing streams, damaging fisheries as well as recreational sites. Whereas these environmental problems noted above are local or regional in scope and can often be reversed in decades or years, if sufficient effort is exerted, energy planners and policymakers are now being confronted with another problem, unlike those that the world has ever faced.

You mentioned it in your opening: global warming. I will not get into the latest details that we have found out, the scientific community, about global warming, only that the emissions of the greenhouse gases, primarily carbon dioxide, have accelerated in the past 5 years. Particular of the past 2 years, the United States in the past 2 years, it has been growing at a rate of 6.1 percent over the past 2 years, far faster than the world as a whole.

The surge in carbon emissions comes at a time when scientists and policy makers are beginning to recognize that reductions in emissions are needed. There is movement underway in European countries that have already approved reduction scenarios, or excuse me, stabilization scenarios. And there is debate in the Netherlands to reduce emissions 2 percent a year for the next four years. But as we are well aware, these policies may not be enough.

The U.S. Environmental Protection Agency estimates that a 50-percent to 80-percent cut in carbon emissions would be needed to stabilize atmospheric concentrations of carbon dioxide. In order to cut carbon emissions and effectively slow global warming, the world will have to move to an energy system over twice as efficient as today's, as well as one that is run largely on renewable energy sources. Hydropower is one small part of that solution, as it can provide a portion of the base load electricity.

Worldwide, hydropower electricity currently displaces about 500 million tons of carbon each year. Hydropower development since 1973 alone displaces nearly 200 million tons of carbon annually, which represents only 3.4 percent of the current carbon emissions in fossil fuels, but that every bit is going to count.

In the United States, of course, hydropower resources have already been heavily exploited. In 1988 the almost 90,000 megawatts of hydropower supplied 12 percent of the electricity that was generated, displacing 58 million tons of carbon, nearly 5 percent of the U.S. emissions. The FERC has on record another 345 projects, representing 7,800 megawatts in capacity that could come on line in the very near future. But there are concerns that this and other expansion is not environmentally acceptable. However, if this capacity were in fact developed and came on line, only 5.4 million tons of carbon could be displaced, a very small fraction of U.S. emissions which are currently around 1,264 million tons.

Let me emphasize that I do not advocate that all of this new capacity be developed. Indeed, much of it undoubtedly should not be developed due to negative impacts on fisheries and recreational resources. The U.S. has already dammed a large share of its wild rivers and those that remain must be considered limited and threatened resource. And it is imperative that the federal and state agencies responsible for licensing such proposals carefully balance the differing economic and environmental benefits and costs.

The Electric Consumers Protection Act being reviewed by the subcommittee today is extremely complex legislation, as is the implementation. I have not had the opportunity to review the act in detail and so cannot judge whether FERC has done an adequate job of weighing the environmental costs or of acquiring environmental mitigation. I do agree however, that the goal of ECPA is a correct one, ensuring that a full environmental review of both new and relicensed hydropower projects be carried out. Within this process, both the costs and benefits of hydropower projects should be weighed.

I am a bit concerned as to whether FERC is the best qualified agency to perform these judgments. It is an agency whose history lies in the regulating of the power industry and not in the increasingly complex field of environmental differences. In the U.S., we have different generating technologies being regulated by different agencies, and perhaps what we need is a single agency that would be able to balance the environmental impacts and benefits of different energy technologies while providing state and local governments an increased voice in assessing projects located in, or that affect, their particular jurisdiction.

Just in closing I would like to note that if we want to cut carbon emissions in the future, we will need to move rapidly to improve energy efficiency and the development of renewable energy today. In the process there is need to better incorporate the environmental costs at all levels, and do so with the most even-handed approach possible. I hope that the subcommittee will keep this in mind, as it continues to work on developing long-term and sustainable energy policies, as well as environmental policies for the country.

Thank you.

[The prepared statement of Mr. Lenssen follows:]

Environmental Impacts Of Energy Production
And
The Electric Consumers Protection Act

Testimony Submitted To

Subcommittee on Water and Power

Committee on Energy and Natural Resources

U.S. Senate

September 28, 1989

Christopher Flavin
Vice President for Research

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Environmental Impacts of Energy Production and the Electric Consumers Protection Act

Thank you Mr. Chairman for the opportunity to testify before the Subcommittee this morning. My name is Christopher Flavin, and this is my colleague Nicholas Lenssen. We represent a non-profit environmental research institute that does not take positions on specific legislation. We have, however, conducted extensive research on energy technologies and policies, with a particular emphasis on the environmental impacts of energy systems. We are particularly concerned about the global environmental damage being caused by today's largely fossil fuel-based energy systems.

The current controversy surrounding hydropower development is not surprising. Increasingly, environmental rather than economic limits have become the chief constraint on expanding national and even global energy systems. And in the foreseeable future, energy planners _will_ become even more preoccupied with examining environmental costs and benefits.

There is a basic problem, however, in weighing environmental problems from different generating technologies on a single scale, as the technologies and their problems vary widely. Nuclear power plants create radioactive wastes; coal plants cause air pollution and acid rain; geothermal plants can lead to water pollution; and hydropower can threaten free-flowing streams, damaging fisheries as well as recreational sites.

Whereas these environmental problems are local or regional in scope, and can often be reversed in years or decades if sufficient effort is exerted, energy planners and policymakers are now being confronted with another problem unlike those the world has ever faced: global warming. Changes to the earth's atmosphere are global and--for all practical purposes--irreversible not only in our lifetimes but in our children's and grandchildren's as well.

Current estimates project a global average temperatures increase of 2.5-5.5 degrees Celsius (4.5-10 degrees Fahrenheit) over the next century. By now we are well aware of the predicted effects from such a dramatic warming: frequent droughts could plague North America and central Asia, imperiling their ability to meet food needs. Wetter, more violent weather is projected for other regions. Many forests could be at risk as climate zones suddenly shift. And many low-lying areas with dense populations or extensive agriculture will be threatened by rising seas.

Fossil fuels, which currently supply 78 percent of the world's energy, are responsible for more than half of the build-up in the greenhouse gases which cause global warming. Last year, approximately 5.66 billion tons of carbon were spewed out worldwide through the combustion of coal, oil, and natural gas, as were significant quantities of methane and nitrous oxide.

We now know that the increase in carbon dioxide concentrations in the atmosphere in the last 30 years exceeds that in the previous two centuries. The reason that atmospheric concentrations are rising is that emissions from burning fossil fuels are increasing. Over the past five years, world carbon emissions have risen 15 percent, while those from the United States--responsible for nearly one-quarter of fossil fuel-based carbon emissions--rose 11 percent. Over the past two years, the world total grew 5.2 percent, while the U.S. jumped ahead 6.1 percent.

This surge in carbon emissions comes at a time when scientists and policymakers are beginning to recognize that reductions in emissions are needed. The governments of Norway and Sweden have approved goals of stabilizing emissions at current levels by the year 2000, while The

Netherlands appears ready to debate a plan to reduce emissions 2 percent each year for the next four years. But these policies may not be enough. The June 1988 Toronto Conference on the Changing Climate called for a 20 percent cut in emissions by 2005. And the U.S. Environmental Protection Agency (EPA) estimates that a 50-80 percent cut would be needed to stabilize the atmospheric concentration of carbon dioxide.

In order to cut carbon emissions and effectively slow global warming, the world will have to move over the next 50 years to an energy system over twice as efficient as today's, and one that is run largely on renewable energy sources. Hydropower is one small part of the solution to the global warming problem, providing a portion of baseload electricity.

Worldwide, hydropower electricity displaces over 500 million tons of carbon each year. Hydropower development since 1973 alone displaces 192 billion tons of carbon annually, representing 3.4 percent of current carbon emissions from fossil fuels.

In the United States, of course, hydropower resources have already been heavily exploited. In 1988, almost 90,000 megawatts of hydropower supplied 12 percent of U.S. electricity, displacing 58 million tons of carbon--nearly 5 percent of U.S. emissions. The Federal Energy Regulatory Commission (FERC) has on record another 345 projects representing 7,800 megawatts of capacity that could come on line in the near future, but there are concerns that this and other expansion is not environmentally acceptable. However, if this capacity were, in fact developed and came on line, only 5.4 million tons of carbon could be displaced, a vary small fraction of U.S. emissions.

Let us emphasize that we do not advocate that all of this new capacity be developed. Indeed much of it undoubtedly should not be developed due to negative impacts on fisheries or scenic resources. The U.S. has already dammed a large share of its wild rivers, and those that remain must be considered a limited and threatened resource. It is imperative that the federal and state agencies responsible for licensing such proposals carefully balance the environmental costs of these projects against the environmental and economic benefits.

There has been an unfortunate tendency on the part of some who seek to protect rivers from hydropower development to attack the federal Public Utility Regulatory Policies Act (PURPA) law itself as a threat. Our view, however, is that PURPA is probably the most important and most successful federal energy legislation approved in the past 15 years. It has allowed a whole new industry of independent power to develop, bringing on line a range of short-lead time renewable energy resources at less than the cost of new utility power projects.

To have any hope of making a fundamental transition to a more environmentally acceptable power system, we should encourage more, not less competitive pressures within the utility sector. It is important, however, that the environmental costs be included when considering projects under a competitive bidding system. New York State, for example, imputes a 1.4 cent/kilowatt-hour cost to fossil fuel projects to account for air pollution damaged. Hydropower's environmental costs obviously must be considered differently, but they, too, must be considered and weighed.

The Electric Consumers Protection Act (ECPA) being reviewed by the Subcommittee today is extremely complex legislation. The actual implementation of the Act by FERC is equally complex. We have not had the opportunity to review the implementation of the Act in detail, and so cannot judge whether FERC has done an adequate job of weighing environmental costs or of requiring environmental mitigation. Each hydropower project is by nature unique, and poses a unique set of environmental problems. Judging environmental requirements and assessing costs and benefits can only be done on a case by case basis.

We do agree, however, that the goal of ECPA is a correct one: ensuring that a full environmental review of both new and re-licensed hydropower projects be carried out. Within this process both the costs and benefits of hydropower projects must be weighed.

We are a bit concerned as to whether FERC is the best qualified agency to perform these judgments. It is an agency whose history lies in regulating the power industry and not in the increasingly complex environmental field.

Different generating technologies are regulated by different agencies. At least in a limited way, fossil fuels projects are regulated by the U.S. Environmental Protection agency and by state agencies. Hydropower is regulated by FERC. And the nuclear industry is watched over by the Nuclear Regulatory Agency. But in the current system, there's no one assessment being performed by any agency to balance environmental effects of energy development. This is a particularly disturbing trend given the increasing role environmental laws--whether it's the Clean Air Act, Los Angeles' Air Quality Management Plan, or future moves to cut back emissions of greenhouse gases--are playing in determining energy policy.

We also are concerned that local and state governments do not have the same control to regulate or even stop power proposals that have local environmental effects deemed to be unacceptable, whether the proposals be conventional fossil fuel development, hydropower, or other renewables.

Perhaps what's needed is a single federal agency responsible for balancing the environmental impacts and benefits of different energy technologies, while providing state and local governments an increased voice in assessing projects located in or that effect their particular jurisdiction.

The recent era of low fossil fuel prices has made renewable energy sources as a whole less competitive on economic terms, despite continued cost reductions in solar, wind, and geothermal technologies. With electricity demand growing 4.5 percent last year, a new round of building power plants appears ready to take place. Most of these plants will be fueled by natural gas. While natural gas only emits 58 percent as much carbon per unit of energy as coal, it still contributes to global warming. Again, we should be closing monitoring carbon emissions, especially since decisions we make today will determine their future levels. If we want to cut carbon emissions in the future, we will need to move rapidly to improve energy efficiency and the development of renewable energy today.

In the process, there is a need to better incorporate environmental costs at the state and federal level for all energy technologies, and to do so in the most even-handed approach as possible. It remains to be seen whether the National Energy Strategy being worked on by Secretary Watkins will come up with an energy policy responsive to the threat of global warming and the need to reduce emissions of carbon dioxide. In the meantime, we hope the Subcommittee will keep this need in mind as it continues to work on developing long-term and sustainable energy and environmental policies for this country and the world.

Senator **Bumpers**. Thank you, Mr. Lenssen.

Mr. Lenssen, I am going to take your testimony and put it in my environmental/energy file for future speeches; I keep a speech file. And you have got tremendous amounts of information and then certainly one of the most important things I get from your testimony is that there is an additional environmental consideration that probably is not being taken into account by FERC right now.

I raised that earlier with one of the Commissioners. And that is, every time you deny a hydropower project, have you considered how the utility company is going to replace that lost power. And as I said earlier this morning, I think that the possibility that it is probably going to be replaced with fossil fuel ought to be a factor to be considered, that I do not think is being considered right now.

Mr. **Lenssen**. If I could make one additional comment——

Senator **Bumpers**. Because of the global warming effect fossil fuel has.

Mr. **Lenssen**. Yes, Senator. I would like to just mention that often it possibly is not a question of renewable or fossil fuel or even nuclear. If we look at the true least-cost, most environmentally benign option which is energy efficiency, we know that 35 percent to 40 percent of our total electricity use can be met through efficiency improvements, at less than a cost of three cents per kilowatt hour.

Senator **Bumpers**. Listen, you are preaching to the choir on that one.

Mr. **Lenssen**. OK. Just--but for the record. Thank you.

Senator **Bumpers**. Yes. Well, it is a perfectly good point to make for the record. Senator Burns.

Senator **Burns**. I would defer to the Senator from North Dakota, Mr. Chairman.

Senator **Bumpers**. Senator Conrad.

Senator **Conrad**. I appreciate that, Mr. Chairman, Senator Burns.

I too agree. I very much found your testimony interesting and useful as well, because quite often what we do is fail to take into account all of the factors that need to be assessed when we are making these decisions. And perhaps that needs to be said at this hearing here today as well.

I do not think any of us wants to see the environment affected in an adverse way; none of us want to see fish populations hurt, very important to the economy of my state, because we have a tourism base that is important to us. And part of that attaches to fishing.

The question is balance and offsets and making certain that we are considering all of the factors that are important. And I wanted to go to my namesake, Mr. Conrad.

Because I heard in your testimony, you are saying, look, it is important that all of these players be at the table. And I think all of us would agree to that. It is important that everybody have input. The question that we really have to consider it seems to me is, how can we have something go on this long and have this number of bites at the apple, and have any kind of rational process left? In other words, does it really make any sense for relicensing, this is not a new project, relicensing to take six years and a cost, one man testified, they are halfway through the process and it has cost them $2.5 million already, as I recall the testimony.

Is it your assertion that everybody needs to be at the table, but we could improve on this process? Or are you saying this process ought not to be changed?

Mr. CONRAD. Well, I will say that this process is complicated. What Gail described is essentially the assembly of a license application and then the state will do a water quality certification. That is a—well, let us not debate why the Federal Government thinks it is important for states to assure that water quality is met, but that is right now not the Commission's job. And that if the project is located on federal lands, that the Federal Land Management Agency should be in a position to condition that project.

And then there are a number of factors that are going to be brought in from local governments, state governments, interest groups, local residents who need to have a place to come in and participate in the process. And we have also made the decision that an awful lot of the burden of developing the proof for why the license is a good idea and supportable, is on the licensee. Because the licensee is going to profit a great deal by getting that license for decades off into the future.

So what I am saying is that the commission does ultimately have the final say so on the fish and wildlife conditions. If they cannot support—the reason why they overruled the fish and wildlife agency's recommendations and if they show—if they appear to be totally arbitrary on that point, then the license will not stand up in court.

Senator CONRAD [presiding]. Well, you have not really answered my question.

Mr. CONRAD. OK.

Senator CONRAD. My question really is, are you saying the process has to be like this to protect the legitimate interests of the various concerned parties?

Mr. CONRAD. I think, I think essentially, yes. I think that we have to bring in all of these factors to make important water resource decisions.

Senator CONRAD. I tell you, I agree that we have got to bring all the players to the table, and every interested party has got to be involved. But this is not going to sell. I can tell you that. This is crazy. This here is not going to sell. We cannot go on like this.

Mr. CONRAD. Senator, this has——

Senator CONRAD. This is not a reasonable—this is not a reasonable construct from my standpoint. And I am very sympathetic to the basic argument that all the players need to have some say. But I will tell you, this is not going to sell with me.

Mr. CONRAD. All right, Senator. The question that I would ask, I heard a lot of criticism of the process from our colleagues in the hydro industry, but I did not see them pointing to particular parts of this process that they think should be simply dropped. And I just would like to make that point.

Senator CONRAD. Yes. I have asked them by the way. I have asked them, what should this process look like. And they have told me they are going to come back and suggest. What they have said to me is look, there is too much review as you go through the process. That at every step, you know, everybody has a chance to come in for review. And maybe we have to wait until later on in the stream, and have everybody come to the table then, and have a chance to review.

But these—you know, at every gate we have got the keepers. And—but 6 years, I mean there is something terribly wrong with a system that takes 6 years and $2.5 million when you have got 90,000 rapiers to go halfway through the process. That just does not make sense from my perspective.

Well, I have got other questions as well, Mr. Chairman. But I know we still have another panel, and I also know that the acting chairman may have some questions. And I have made another commitment which I will have to leave for.

I appreciate the work of all of the witnesses and the participation here. I think this has been a very valuable hearing.

Senator **Burns** [presiding]. Thank you. I just have a comment here. I must apologize. Here I am trying to sit and learn something, then you got to jump up and go vote and do 100 other things, and then we ask you to make these statements up, and then we will not let you read them. I say that is the height of hypocrisy right there.

I just have a question for Mr. Conrad. And I too, I guess, regarding the environment, I do not think there is a state in the union that has tougher environmental laws than the State of Montana. And I support every one of them. Every one of them. But I am wondering when we come—have all groups that tend to commit their entire resource to environmental issues ever sat down at a table and made an evaluation of what this society is going to need to survive in the way of power? And yes probably in the way of food production. And then agreed on a—taken one stand on where our priorities should be? I mean the whole community. We have this group over here. We have Greenpeace. We have the Wild Rivers people. We have the Wildlife Federation. We have the Forest Society.

Have they ever had a come-together and sat down and said OK, this is what we are going to need to survive as a society? And what approach should we take to work with the community that has to provide those services?

Mr. **Conrad**. Senator, I do not know that we have ever had precisely that meeting. And I do think that what all of our groups, and I think everyone at this table is trying to say is that, we have a limited resource base and we have to work within its constraints. And I think that is what the FERC licensing process at this point is intended to identify in the hydro field.

Senator **Burns**. I guess what I am getting at is that we get something settled out here, and then all at once another little group comes up over here. And I tell you what, we get blind-sided. And I think FERC goes through the same thing in the licensing and relicensing. We got a situation that is settled, we go through this process, then up jumps another group.

And what I am trying to do is try to bring those together. So that they know what the needs are as a society and as a nation. And I am like Senator Conrad. I look at this, and I will tell you what, that is pretty scary to an old cowboy. I would not know where to start. I do not know whether the Redskins can use this next Sunday or not, but I might suggest it to them.

But I would suggest at this time, I also have some questions on the 401 permits. Are they being used right? Are they being used as blackmail or what? And I would—anybody can respond to that. Yes.

Mr. AYER. Fred Ayer. I think in the New England region, I think it has become quite obvious that the 401 certification process, particularly in the states of Vermont and New York, is a totally second layer of regulation, very similar to this process. In fact, the application to be acceptable in some of those states for filing for 401 certification is that three-foot bookshelf document.

If I might just go back in time. I have been licensing, working in hydro licensing for about 12, 14 years. When we first did 401 certifications, they were handled—we were dealing with water pollution questions. We were doing them with the state agencies. That has now been wrapped into what I would call a secondary layer of jurisdiction. And we are ending up filing documents that exceed sometime, the size and cover issues beyond what normally would be considered to be a water quality issues: traffic movement, recreational fisheries, aesthetics; it seems to have gone way beyond the original intent of the 401 certification process.

Senator BURNS. Anyone else want to address that?

Mr. CONRAD. Well, I think that the states under the 401 process are required to assure that the water—that the project meets the state's standards for water quality. And, of course, under that act, there is an attempt to bring the quality of our waters up to a high quality. I mean, we are in a costly—trying to move that quality up. Clearly, hydroelectric projects can have adverse impacts on water quality and on the uses of rivers and streams that are under—that are part of state quality standards or part of the intent of states to be uses to be protected.

So I think that states are carrying out their 401 quality standards within the law. If they do not they will go to court and they will lose in court. And there have been a few reversals in that area at the state level.

Senator BURNS. Would you agree with Fred over here that maybe they have gone beyond the intent of the legislation?

Mr. CONRAD. No, I do not think I would agree they have gone beyond the intent of the legislation.

Senator BURNS. I did not think that you would. I wanted to make that clear on the record.

Ms. GREELY. If I could make one additional comment? I am sorry.

Senator BURNS. Yes.

Ms. GREELY. If I could make one additional comment. The problem, David, is with all of this, somebody has to be in charge. Somebody has to make the final decision. And it darn well better be somebody who can take a look at national energy policy considerations and not just be looking at their specific concern for their specific agency, be it water quality or fisheries or dredge and fill permitting.

Mr. CONRAD. Who would you propose has the kind of global understanding of issues in this regard?

Ms. Greely. I would propose that the Congress has already told us who has that responsibility. It is the Federal Energy Regulatory Commission.

Senator Burns. Thank you very much. I appreciate the little dialogue there. It enlightens me a lot. But I would say and I want to footnote this, and I will make light of it. Because I think we have some environmental problems, but we also have a problem of trying to keep this society progressing. And I would hope in the—those groups, both industry groups and those groups who address environmental concerns would all sit down and come with some recommendations that they do not just come from here, there, yonder in piecemeal. Just like this, how do you trade off?

If fossil fuels are going to create global warming and acid rain, do we trade that against maybe a fish or two on a stream to produce hydro? How do you make those trades?

Yes, sir. Go ahead.

Mr. Echeverria. If I can address that question. I think we are talking about two issues here. And I think the response to your point—one is a question of whether a legitimate and important industry in this country, hydropower development, is subject to undue regulation. And I think reasonable people can differ as to that. And we already have.

I think the other question is, regardless of what approach the commission or the Congress might take, what is the potential in hydropower to create power, new sources of power, that are really going to make a dent in the problem of global warming. I think there is an issue of scale here. We have already developed an awful lot of our rivers in this country; 17 percent of the river miles in this country are already behind impoundments. I think the excellent testimony presented by the Worldwatch Institute confirmed that there is not a great deal of potential out there for new hydropower resources to really make a dent in that problem.

So I think hydropower has a role to play. I think additional rivers should be developed for hydropower, while providing the other rivers be conserved. But I think we have to keep things in perspective. New hydropower development is not going to solve global warming. Everybody must make the contribution of global warming—hydropower is going to get lost in the noise.

Senator Burns. Yes, sir.

Mr. Adams. Yes. I would like to make a comment to that too. Not just the new hydro facilities, but if we lose the operational advantage we have with existing hydro facilities, that too has to be made up with other sources of energy.

Senator Burns. Once again, I want to thank you on behalf of the committee for your time and your efforts that you put in this. And thank you very much. We will go to the next panel please.

Thank you very much.

Can somebody help us move that display out here? It scares me to death.

We have Mr. Colquhoun, who is chief, Bureau of Environmental Protection, New York Department of Environmental Conservation. And Mr. Moffett and Dr. Foster on this last panel. And again, I would welcome you to this agenda today and thank you for your time. And if your statements are too long, then be assured that your full statement will be entered into the record. And if you could in the essence of time give an abbreviated statement. Obviously, I have never missed a meal, nor do I intend to, in the interest of time. But I am very interested in what you have to say.

So, Mr. Colquhoun, if you would begin please.

STATEMENT OF JAMES R. COLQUHOUN, CHIEF, BUREAU OF ENVIRONMENTAL PROTECTION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. COLQUHOUN. Thank you very much, Mr. Chairman.

I will shorten this appreciably. I know you have the statement. I am James R. Colquhoun. I am chief of the Bureau of Environmental Protection in New York. Among other responsibilities, I am responsible for coordinating fish and wildlife review of hydropower exemptions, licensing and relicensing activities. My bureau is responsible for conduct of that part of the consultation process, which you heard described this morning.

The department has been designated as New York's lead agency and therefore the department is engaged in doing some of the balancing that you have also heard considered to be necessary this morning. We are also responsible for coordinating the water quality certificates consistent with the requirements of section 401 of the Clean Water Act.

Hydropower is sometimes considered to be the ideal energy source. An environmentally benign in pollution freeway to harness the energy of water, which would otherwise flow to the sea, with or without a hydro project to capture the energy. It is true that hydropower is not burdened by the significant adverse effects of fossil fuel burning, or the long term problems associated with nuclear power plants.

However, hydro is not free of ecological consequences. There are significant potential adverse effects of hydro development. These are enumerated in detail in my complete statement and I will not go through them, because you have heard a lot about them this morning. I think you are relatively familiar with the potentials are. These and other adverse effects can, however, in most instances, be mitigated. Clear statutory authority is required to enable responsible regulatory agencies to impose the conditions essential for the protection of these resources. ECPA provides to us that authority. ECPA provides for significant environmental protection safeguards.

These requirements for mitigation, protection and enhancement of the resources are all important, reasonable and necessary components of a program to ensure the production of hydropower without significant long-lasting and adverse environmental effects. The provisions of ECPA do not preclude hydropower operation and development. Rather they provide tools to ensure that such development is conducted responsibly and with due consideration of the overall public interest. ECPA provides for competition when it will lead to the most energy efficient operation possible consistent with environmental protection and enhancement needs.

It protects the most important remaining free flowing streams, but allows development, when it can be shown that water quality will be maintained, and the stream is not judged to have unique characteristics worthy of special protection. It allows resource management agencies to provide for comprehensive natural resource, recreational, and flow management, through a river basin. Those who claim that ECPA is biased against energy interests are overlooking certain provisions added for the benefit of developers during the conference. These include the removal of the municipal preference provisions of the Federal Power Act, which could have led to municipal takeover of the nation's most profitable hydropower facilities.

ECPA also requires demonstration of substantive advantages of a proposed project if a new developer is to be favored over an existing developer. The revocation of the municipal preference and the establishment of a timely review process with clear authority and procedures for dispute resolution were significant benefits to the hydropower utilities as well as to the regulatory agencies.

The enactment of ECPA resulted in some limitation in the role of hydropower in the nation's energy mix, due to the aforementioned restrictions on operations and requirements for provision of flow in bypassed reaches. These effects are insignificant in comparison to the substantial environmental gains possible as a result. Well, this approach does not maximize the role of hydro in the nation's energy mix. It certainly comes close to optimizing it.

The majority of ECPA's provisions are incorporated in the new relicensing regulations. We believe that these regulations will result in licenses with adequate balancing of environmental and energy interests. We may not have experiential data to prove this, but we believe it to be the case.

In conclusion, Mr. Chairman, we may have very limited practical experience with ECPA at this time, but believe strongly that substantial environmental benefits will result. We intend to use this important new tool responsibly. Please do not weaken ECPA until we have more experience and can tell you how well it works.

I would also like to mention that we should not forget that the projects due for relicensing were first licenses under a laissez-faire policy and they have lots of potential benefits that need mitigation, effects that need mitigation. And I would also like to note that if only 5 percent of the state agency recommendations have been denied, you may likely, as likely conclude that perhaps responsible recommendations have been made for the other 95 percent. And finally, we believe that the 401 certificate and its review is an important and necessary component of our review.

We limit it to water quality matters, which include flow temperature, dissolved oxygen, suspended solids, as well as all the other standards that we have in the State of New York.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Colquhoun follows:]

TESTIMONY OF

JAMES R. COLQUHOUN

CHIEF, BUREAU OF ENVIRONMENTAL PROTECTION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

BEFORE THE

SENATE SUBCOMMITTEE ON WATER AND POWER

SEPTEMBER 28, 1989

Mr. Chairman, Members of the Subcommittee on Water and Power:

I am James R. Colquhoun. I am the Chief of the Bureau of Environmental Protection of the New York State Department of Environmental Conservation.

Among other responsibilities, I am responsible for coordinating fish and wildlife review of hydropower exemptions, licenses, and relicensing activities. My Bureau is responsible for conduct of that part of the consultation process relating to fish and wildlife resources leading to recommendations to the Federal Energy Regulatory Commission (FERC) consistent with the authority and requirements of the Federal Power Act as amended by the Electric Consumers Protection Act (ECPA) of 1986 and consistent with requirements of the Fish and Wildlife Coordination Act and the Endangered Species Act. The Department of Environmental Conservation has been designated as New York's lead agency for the review of hydropower licensing actions. We prepare and submit consultation comments to the FERC based on coordination with other state agencies and among programs within the Department. Our agency also is responsible for reviewing and conditioning water quality certificates consistent with the requirements of Section 401 of the Clean Water Act.

It is my understanding that the purpose of these hearings is to consider whether the implementation of ECPA is producing licensing decisions in the overall public interest, or whether environmental concerns are inappropriately emphasized to the detriment of our energy needs.

It was the intent of Congress in enacting ECPA in 1986 to provide for effective balancing between the nation's energy and environmental protection needs.

Hydropower is sometimes considered to be the ideal energy source, an environmentally benign and pollution-free way to harness the energy of water which would otherwise flow to the sea with or without a hydro project to capture the energy. It is true that hydropower is not burdened by the significant adverse effects of fossil fuel burning or the long term problems associated with nuclear power plants. However, hydro is not free of ecological consequences. Potential adverse effects of hydropower development include:

- Dams and diversions are barriers to migration and movement of fish and may significantly limit or even eliminate fish populations by restricting access to critical habitat such as spawning and nursery areas.
- Significant recreational, ecologic, and aesthetic resources may be lost when stream reaches below dams are bypassed by diversions leading to downstream powerhouses and mainstream waterflows are reduced.

- Scarce free-flowing riverine ecosystems and their attendant cultural, aesthetic, and recreational values are lost when they are covered by new impoundments.
- Normal (and ecologically necessary) fluctuations in flow, water level, and temperature may be seriously altered by operational practices and hydropower structures leading to alterations in aquatic ecosystems.
- Water quality may be adversely affected by fluctuations in flow, release of impounded waters, construction activities, and operational practices.
- Fish and other organisms may become entrained in flow through diversion structures and turbines or become impinged on screens or trash racks, in both cases leading to death or serious injury.

These and other adverse impacts can, in most instances, be mitigated. However, clear statutory authority is required to enable responsible regulatory agencies to impose the conditions essential for the protection of these resources. ECPA provides this authority.

ECPA provides for significant environmental protection safeguards including:

- the requirement that FERC give equal consideration to energy conservation and environmental protection, mitigation of damage to and enhancement of fish and wildlife, and protection of recreational opportunities.
- the requirement for development and use of comprehensive natural resource plans.
- the recognition of authority of State and Federal management and protection agencies.
- the specific authority for fish and wildlife agencies to condition licenses and exemptions that will provide for adequate protection, mitigation, and enhancement of fish and wildlife resources.
- the authority for FERC to resolve inconsistencies between these conditions and their effect on hydropower energy production.
- a prohibition against causing physical changes in aquatic habitat unless authorized by a license from FERC.

- the removal of financial incentives for construction of new dams or diversions by revocation of PURPA benefits for new dams and diversions unless there would clearly be no adverse effect on water quality and the subject river is not a protected river, and then only if reasonable terms and conditions of fish and wildlife agencies can be met.
- more effective measures to assure project compliance.

These are all important, reasonable, and necessary components of a program to ensure production of hydropower without significant, long lasting adverse environmental effects.

The provisions of ECPA do not preclude hydropower operation and development. Rather, they provide tools to ensure that such development is conducted responsibly and with due consideration of the overall public interest. ECPA provides for competition when it will lead to the most energy efficient operation possible, consistent with environmental protection and enhancement needs. It protects the most important remaining free flowing streams but allows development when it can be shown that water quality will be maintained and the stream is not judged to have unique characteristics worthy of special protection. It allows resource management agencies to provide for comprehensive natural resource, recreational, and flow management throughout a river basin.

Those who claim that ECPA is biased against energy interests are overlooking certain provisions added for the benefit of developers. These include the removal of the municipal preference provision of the Federal Power Act which could have led to municipal takeover of the nation's most profitable hydropower facilities. ECPA also requires demonstration of substantive advantages of a proposed project if a new developer is to be favored over an existing operator. The revocation of the municipal preference and establishment of a timely review process with clear authority and procedures for dispute resolution were significant benefits to the hydropower utilities.

The enactment of ECPA resulted in some limitation on the role of hydropower in the nation's energy mix due to the aforementioned restrictions on operations and requirements for provision of flow in bypassed reaches. These effects are insignificant in comparison to the substantial environmental gains achieved as a result. While this approach does not maximize the role of hydro in the nation's energy mix, it certainly comes close to optimizing it.

New York recently considered hydroelectric facility relicensing, and indirectly, ECPA, in the context of preparing a statewide integrated energy resource plan. One major component of the plan requires consideration of adverse environmental impacts associated with power generation. In this regard, we were specifically directed to look at the role of hydroelectric facility relicensing.

A draft energy plan was released for public review in May of this year. The draft plan does not directly suggest that new hydroelectric facilities be encouraged or discouraged. The draft recognizes that approximately 500 MW of existing small hydro electric capacity in New York is currently undergoing relicensing or initial licensing by the FERC. The draft plan makes four recommendations, as follows:

1. The relicensing process should go forward with full environmental review;
2. Minimum flow requirements should be implemented that adequately protect fish and wildlife resources;
3. Recreational opportunities associated with hydro facilities should be optimized; and
4. The State, acting through my Department, should actively participate in the federal relicensing process to ensure that resource decisions made by FERC adequately reflect the State's environmental concerns.

This draft energy plan has undergone an extensive review and comment process, including public hearings. Based upon the public comments received to date, it is not likely that the recommendations will be changed substantially. The final plan should be adopted in early October. Copies will be forwarded to your committee.

In May of 1988, FERC issued a Notice of Proposed Rulemaking for hydropower relicensing under the Federal Power Act as amended by ECPA. The bulk of the relicensing applications for the 49 projects in New York must be filed by the beginning of 1992. The majority of these projects have completed the initial stage of consultation under the FERC regulations for existing projects and will now dovetail into the new relicensing regulations under the transitional provisions provided therein.

The majority of ECPA's provisions are incorporated in the new re-licensing regulations. We believe that these regulations will result in licenses with adequate balancing of environmental and energy interests. We may not have experiential data to document this belief at this time, but we do know that the Section 31 provisions for enhanced compliance have already had significant positive effects. No clear reason to dilute the environmental protection of ECPA has been given.

In fact, if ECPA is to be revisited at this time, we believe it should be for the purpose of chosing certain loopholes or otherwise strengthening its environmental protection provisions, which we believe can be accomplished consistent with the underlying intent of Congress that environmental issues be balanced against the need for hydropower in the nation's energy mix. For example, in testimony before Congress in late 1987, New York State did not challenge FERC Order 464 declaring the commencement of the one year period for state 401 certification review to begin at the time of receipt of application regardless of whether the application is deemed complete. In the two years since the new rule has been in effect, however, experience has shown that state review periods have been significantly shortened while additional information is collected from applicants sufficient to make the application complete and ready for review. In addition, New York has objected all along to the retroactive application of the rule which effectively prohibited State review of a number of applications. We believe any reopening of ECPA should address these issues and would be happy to provide any additional information the committee may desire.

In conclusion, Mr. Chairman, we may have very limited practical experience with ECPA at this time but believe strongly that substantial environmental benefits will result. We intend to use this important new tool responsibly. Please don't weaken ECPA until we have more experience and can tell you how well it works.

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Senator **Burns**. Thank you, Mr. Colquhoun.

Mr. Moffett, if you would follow that please. And we will have some questions for all three of you at the conclusion of your statement.

STATEMENT OF CONLEY L. MOFFETT, DEPUTY ASSISTANT DIRECTOR, FISH AND WILDLIFE ENHANCEMENT, FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

Mr. **Moffett**. Thank you, Mr. Chairman.

The Fish Wildlife Service fully supports the intent of ECPA to give fish and wildlife protection mitigation and enhancement equal consideration with power generation. And since ECPA's passage, a lot of progress has been made in the area of environmentally prudent power generation. Further, we believe that ECPA has stimulated interagency coordination and incorporation between the service and FERC. The service's role in reviewing licensing and relicensing applications is largely advisory.

From our perspective, relicensing application review offers an opportunity to evaluate under today's more stringent environmental standards. Where the projects that have adversely impacted fish and wildlife resources for 30 years or more, should continue or be modified to reduce those impacts. The first area of concern that I wish to address today is the lack of a clear and consistent interpretation of the Section 10(j) standard.

This standard requires that resource recommendations must be consistent with the purposes and requirements of the Federal Power Act. Despite this requirement, service recommendations have sometimes been rejected by FERC, based on their disagreement with our biological conclusions and recommendations, rather than relying on the standard for consistency with the purposes of the Federal Power Act. While we do not consider our views and considerations to be, to be beyond reproach, we believe that they should be honored, when they are reasonable and backed by adequate documentation, or professional expertise. And when overwhelming contrary information is lacking.

To resolve this situation, FERC should develop, incorporation with review agencies, definitive criteria for making consistency determinations that are in keeping with the statutory standard. The second problem in implementing ECPA has been a lack of established procedures for issue resolution under Section 10(j). This has resulted in confusion and in some cases, precluded effective coordination and service participation in the resolution process.

A draft memorandum of agreement addressing issue resolution between the Department of the Interior and the FERC chairman was developed, but was put on hold pending rule making. Although FERC did issue a proposed rule related to relicensing this spring, the rule does not address Section 10(j) procedures. We understand that rule making on Section 10(j) procedures is forthcoming eventually from FERC. We urge that it happen just as soon as possible and that our input as well as other resource agencies be sought and implemented.

Improvements are also needed in procedures for obtaining adequate resource information. Without adequate information, the service cannot meet its application to provide resource recommendations to FERC. Although the service sometimes conducts studies and develops some information, study needs are generally met by the applicants who, for the most part, are very cooperative. However, in those situations where needed information is not provided, the service must either provide no recommendations or make recommendations at our subject to rejection based on FERC's view, that they are inconclusive or unsubstantiated.

The service believes that FERC is ultimately responsible for ensuring that all valid information needs are met, and in keeping with recent court decisions in ECPA, studies in information need should be completed or met prior to licensing, so that all measures for the protection mitigation and enhancement of fish and wildlife are incorporated as a license condition.

We would also like to call attention to the need for reliable and mutually acceptable cumulative impact assessment methodology. The river basin assessment methodology presently employed by FERC has been troublesome in that assessments and conclusions are sometimes developed without adequate resource agency input. As a result, in some instances, where inadequacies or points of disagreements have arisen, the burden of proof has been placed late in the game on the service and state natural resource agencies. As a result of this, fish and wildlife losses may occur.

We would like to work very much with FERC in developing mutually acceptable assessment methodologies. We also have concerns about questions raised to us about economics. We are not economics specialists, we are biologists, and we would rely on FERC's expertise on dealing with economic issues.

In conclusion I would like to say that, we would like to see greater acceptance of our recommendations, greater assistance from FERC in obtaining adequate information, and a commitment from FERC to coordinate the development of an acceptable cumulative impact assessment methodology. We also acknowledge recent progress in these areas, as well as the need to continue in this direction in order for the fish and wildlife provisions of ECPA to be realized.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Moffett follows:]

TESTIMONY OF CONLEY L. MOFFETT, DEPUTY ASSISTANT DIRECTOR FOR FISH AND WILDLIFE ENHANCEMENT, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON WATER AND POWER, COMMITTEE ON ENERGY AND NATURAL RESOURCES, UNITED STATES SENATE, REGARDING HYDROPOWER DEVELOPMENT

September 28, 1989

Mr. Chairman and Subcommittee members, thank you for the opportunity to testify on behalf of the Fish and Wildlife Service (Service) regarding our role in hydropower licensing activities. As you are aware, the 1986 amendments to the Federal Power Act and the Public Utility Regulatory Policies Act (PURPA), known collectively as the Electric Consumers Protection Act of 1986 (ECPA), significantly strengthened the role of resource agencies, including the Service, in both licensing and relicensing activities. With that strengthened role has come the increased responsibility to provide reasonable, defensible, and biologically sound recommendations. The Service is meeting this challenge.

The Service fully supports the intent of these amendments to incorporate fish and wildlife considerations in the procedures followed by the Federal Energy Regulatory Commission (FERC). As part of my testimony today, I would like to provide a brief summary of the Service's role in the licensing and relicensing process, and identify the main issues that have surfaced during the past three years in implementing these amendments.

The Electric Consumers Protection Act of 1986

The Electric Consumers Protection Act (P.L. 99-495) contains various amendments to the Federal Power Act (FPA). My remarks will be confined to those provisions pertaining to fish and wildlife resources. The most important of those provisions require that the protection, mitigation of damages to, and enhancement of fish and wildlife receive equal consideration with development purposes, and that the status of fish and wildlife recommendations be upgraded.

Section 4(e) of the FPA was amended to require that, when issuing a license for hydropower development, FERC give equal consideration to protecting, mitigating damages to, and enhancing fish and wildlife resources, as well as consideration of other aspects of environmental quality. The comprehensive planning process authorized in section 10(a) of the FPA, which is essentially FERC's public interest review process, was also amended to provide for adequate protection, mitigation of damages to, and enhancement of fish and wildlife resources.

The most significant and perhaps the most controversial fish and wildlife related amendment to the FPA, however, was the addition of section 10(j), which requires FERC to include in licenses conditions needed to provide for the protection, mitigation of damages to, and enhancement of fish and wildlife resources. These conditions are to be based on recommendations of the Service, the National Marine Fisheries Service and the appropriate State fish and wildlife agency and are made pursuant to the Fish and Wildlife Coordination Act.

Section 10(j) also stipulates circumstances for rejecting recommendations and requires attempts to resolve inconsistencies with this standard. When FERC determines that any resource agency's recommendation is inconsistent with the purposes and requirements of the FPA or other applicable law, FERC and the resource agency shall attempt to resolve any such inconsistency. FERC must give due weight to the recommendations, expertise, and statutory responsibilities of the resource agencies. After attempts to resolve inconsistencies, if FERC does not adopt in whole or in part the recommendation of any resource agency, it is required to publish findings that:

1) adoption of such recommendations is inconsistent with the purposes and requirements of the Act or with other applicable provisions of law; and

2) the conditions selected by the Commission adequately and equitable protect, mitigate damages to, and enhance fish and wildlife.

ECPA also amended the relicensing procedures in section 15 of the FPA to provide for specific time frames and specific factors to be considered when determining who should receive a license for a project and/or whether a project should be relicensed. An applicant's fish and wildlife mitigation and enhancement plans are factors that are required to be considered by FERC; however, in the case of competing applications, these plans are not to be used as a "tie breaker" to determine who receives the license. Applicants are required to consult with fish and wildlife agencies and conduct studies, as appropriate, prior to relicensing.

Section 30 of the Federal Power Act was amended to provide for reimbursement to fish and wildlife agencies, including the Service, for studies and reviews for those projects that are required to meet terms and conditions set by these agencies. This applies to three types of projects--exemptions for projects with an installed capacity of 5 megawatts or less, small conduit exemptions, and new dams and diversions where benefits under PURPA are being sought.

Section 210 of PURPA was amended to include three requirements for any project proposing to use a new dam or diversion and seeking tax benefits under PURPA. First, such projects are subject to the mandatory terms and conditions set by fish and wildlife agencies. Secondly, FERC must find that such projects will not have substantial, adverse effects on the environment. Finally, the project cannot be located on a State or national wild and scenic river system or on any segment of a natural watercourse which the State has determined to have natural, recreational, cultural, or scenic attributes which would be adversely affected by hydropower development. There are, however, numerous exceptions to these requirements, which I will not discuss.

ECPA also requires FERC to provide Congress with a study conducted in accordance with section 102(2)(C) of the National Environmental Policy Act to determine whether PURPA benefits should be applied to projects utilizing new dams or diversions. It also placed a moratorium, with exceptions, on PURPA tax benefits until Congress considers FERC's study. The completed FERC study recommends that

PURPA tax benefits continue to be provided for new dams or diversions; however, the moratorium has not yet been lifted.

Fish and Wildlife Service Role in the Licensing and Relicensing Process

The Service's role in hydropower development is essentially the same both in licensing of new facilities and relicensing of existing facilities. Service comments and recommendations are provided pursuant to the Fish and Wildlife Coordination Act, and are advisory rather than mandatory. There are several instances when Service recommendations are mandatory, however.

The Service has the authority to set mandatory terms and conditions for projects exempted from licensing under section 210 of PURPA and section 30 of the FPA. In addition, pursuant to section 18 of the FPA, the Department of the Interior (Department), through the Service, may prescribe fishways to provide for upstream and downstream passage of fish. Under section 4(e) of the Federal Power Act, the Department, through the Service, provides mandatory conditions necessary to protect fish and wildlife resources on Department of the Interior properties when fish and wildlife conservation is an authorized purpose of those properties.

The objective of the Service in the hydropower licensing and relicensing process is to provide the best possible technical and scientific advice and to participate fully in mitigation planning. The goal is to ensure that hydropower projects are planned, implemented, and operated with full and equal consideration for the protection, mitigation, and enhancement of fish and wildlife resources. This is accomplished through early coordination with the applicant and FERC, close coordination with State and Federal resource agencies and Indian tribes, and consideration of State and Federal resource plans. Service biologists identify fish and wildlife resources and their habitat values that may be affected by development, assess project impacts on these resources and values, and make recommendations to protect, mitigate damages to, and enhance these resources.

The Service has found that close coordination with project proponents in the early stages of project planning is the most effective and responsible approach to making clear the Service's responsibilities, ongoing programs, and interests. In addition to mitigation measures and enhancement opportunities, the Service also recommends studies and requests information concerning resources and potential impacts of the project on those resources. Recommended studies are based on the amount and quality of information available at a particular site, the resources present, Federal and State resource goals and programs, and a demonstrated need for information to determine the extent of adverse impacts on those resources. Generally, the studies address instream flow, habitat evaluation, entrainment, and subsequent turbine-related injury and mortality.

Mitigation recommendations are determined using the Council on Environmental Quality's (CEQ) Regulations for Implementing the National Environmental Policy Act, which have been embodied in the

Service's Mitigation Policy, issued in 1981. The Service has adopted the definition of mitigation provided in CEQ's regulations and believes that this definition provides a desirable sequence of steps for avoiding, minimizing, or eliminating adverse environmental impacts. In the Service's view, the first step is to avoid impacts; the second is to minimize impacts; the third and fourth include measures to rectify impacts and to reduce or eliminate the impacts over time. The fifth step is to compensate for unavoidable impacts. The last step, which usually involves creating or improving habitat, is what most people think of when the term mitigation is used. It is, therefore, important to recognize that compensation is the last option in mitigating impacts. When feasible, the Service also recommends enhancement measures that will improve fish and wildlife resources beyond that which would exist without the project.

The applicant is advised early of the Service's resource goals in the project area. General planning goals and guidelines are set forth in the Service's Mitigation Policy and are based on the value and relative scarcity of habitat to fish and wildlife species. The Mitigation Policy ensures consistent, predictable, and effective Service recommendations; allows applicants and FERC to anticipate Service recommendations and plans for mitigation needs early; and reduces conflict and resultant delays in project implementation.

The Service recommends that opportunities for protection, restoration and enhancement be thoroughly considered and included in licensing and relicensing activities. We believe that this approach is consistent with Congressional intent in enacting ECPA. An example of a restorative opportunity involves increasing anadromous fish populations in waterways where the species were extirpated or severely reduced by dam construction.

Restoration of anadromous fisheries is recognized by the Service, other resource agencies, and the general public as a valuable public benefit. To facilitate restoration, the Service recommends installation of fishways at a hydropower facility or, as mentioned previously, invokes the Secretarial fishway prescription authority, pursuant to section 18 of the Federal Power Act. The Service more frequently recommends mitigative measures pursuant to section 10(j) of the Federal Power Act specific to instream flow requirements, project operation (e.g., run-of-the river operation versus peaking modes), public access, water quality maintenance, and raptor protection from powerline electrocution.

Many of the projects to be considered in relicensing have caused detrimental impacts to fish and wildlife resources for many years. Reduction or elimination of instream flows, blockage of fish passage, and habitat destruction are characteristic of the problems encountered. The Service views relicensing as an opportunity to evaluate whether the Nation's public fish and wildlife resources that have been adversely impacted for the past 30 years or more should be recommitted for an additional license term of 50 years. We believe that both provisions in ECPA and recent court cases clearly require a reevaluation.

The ECPA Conference Report, in particular, makes it clear that relicensing is not business as usual, but that projects are to be reevaluated in light of today's standards. Today's standards, as stated in ECPA amendments and implied in the Administration's commitment to protection of the environment and stewardship of natural resources, require equal consideration of fish and wildlife resources. Therefore, in keeping with the intent of the Conference Report, the Service will recommend that projects be modified to accommodate fish and wildlife concerns when such resources have been adversely affected. The Service will also recommend measures to the Commission that ensure that past and continuing significant adverse impacts of the project are offset and that opportunities for protection, mitigation, and enhancement are identified.

With regard to relicensing, the applicant is required to submit a completed application two years prior to license expiration, and to consult with fish and wildlife agencies pursuant to section 15 of the Federal Power Act. In May 1989, FERC issued regulations concerning relicensing that require the Service to participate in extensive consultation and coordination. Since consultation should be completed prior to submittal of applications to FERC, in FY 1990, the Service will be working on approximately 280 projects for which licenses expire between 1990 and 1995. The majority of these licenses expire in 1993 and are concentrated in Maine, New York, Michigan, Minnesota, New Hampshire, Vermont, and Wisconsin.

Some of the resources affected include Atlantic salmon; shad; herring; lake sturgeon; walleye; smallmouth bass; rainbow, brook and lake trout; stocked steelhead, coho and chinook salmon; bald eagles; waterfowl and wetlands. The Service has prepared an environmental impact statement on its Atlantic salmon restoration plan for New England rivers, many of which have dams subject to relicensing between 1990 and 1995 that originally caused the extirpation of historical populations of anadromous fish.

The Service also encourages the development of basin-wide comprehensive mitigation plans, particularly with regard to relicensing activities, and assists in their development to the maximum extent possible. For example, the Service's Region 1, located in Portland, Oregon, provides technical assistance to the Northwest Power Planning Council. The Council, in turn is responsible for implementing provisions of the Northwest Power Act which provides for comprehensive planning in regional power development. This planning is to the benefit of both the hydropower developer and fish and wildlife resources. It reduces conflicts on a project-by-project basis, avoids a piecemeal approach to development, and ensures a combined effort for the protection, mitigation and enhancement of resources from a river basin perspective.

In September 1988, the Service issued a hydropower policy to guide Service biologists in their review of hydropower projects. This policy addresses prefiling consultation, mitigation, enhancement, cumulative impacts, and basin-wide mitigation plans. Since the policy has not undergone significant public review, the Service will seek public review and comment within the next few months.

Principal Issues -- Implementation of the ECPA Amendments and Related Licensing and Relicensing Procedures

Since passage of ECPA, the Service has observed that increased attention has been given to our recommendations by FERC. Prior to ECPA, Service recommendations were less rigorously addressed by FERC and were frequently not implemented. We acknowledge and welcome the improved coordination and communication with FERC staff; however, significant problems and issues remain almost three years after passage of the amendments. In this regard, I will now focus on fish and wildlife concerns associated with ECPA.

Inconsistency standard -- The lack of a clear and consistent interpretation of the standard "inconsistent with the Act" has been a problem. It was not until recently that FERC publicly defined this standard. In an order issued May 2, 1989, for the Dynamo Project in California, FERC outlined the criteria for determining inconsistency and under what conditions the section 10(j) issue resolution process should be triggered. These criteria are:

> (1) A determination is made that there is not substantial evidence to support the agency recommendation and it is, therefore, inconsistent with law; or (2) The agency recommendation, taken as is, conflicts with the Commission's responsibility to balance competing uses of waterways.

Prior to this order, based on the Service's experience, FERC has generally used the section 10(j) process to question resource agency expertise. Discussions dealing with why Service recommendations are inconsistent with the Federal Power Act and how they could be modified to be consistent have been minimal. Presently, rejection of Service recommendations by FERC staff is less frequent, but in certain instances continues to be based on contrary biological opinion and by stating that Service recommendations have not been adequately documented. Since the Dynamo Project order, these conflicts have decreased.

It is the Service's opinion that ECPA provides a rebuttable presumption that Service recommendations are necessary for fish and wildlife, and they should not be "second guessed" by FERC on technical issues provided that the Service documents its technical case. Also, definitive criteria should be employed by FERC for determining inconsistency and the Service recommendation should be only subject to the balancing provisions of section 10(a). This is consistent with present FERC policy.

Section 10(j) implementation procedures -- Another problem in implementing the ECPA amendments has been a lack of established procedures for issue resolution under section 10(j).

Several months after passage of ECPA, the Service and FERC began coordinating on development of a Memorandum of Understanding on procedures for implementing section 10(j). In August 1988, the Acting Assistant Secretary for Fish and Wildlife and Parks transmitted a final draft of the MOU to the FERC Chairman's office for review and signature. There has been no formal response since. FERC has indicated that rulemaking concerning section

10(j) procedures is presently underway, thus apparently putting the MOU on hold.

The lack of consistent procedures has resulted in confusion and, in some instances, has not allowed the Service to effectively coordinate and participate in the process. For example, during section 10(j) discussions on one project, Service biologists were given less than a day to review an environmental assessment prior to a meeting to resolve issues. In another, the Service was not afforded the opportunity to negotiate informally with FERC and the subsequent process of writing formal letters was relatively inefficient and not conducive to good coordination. There are also instances in which FERC has scheduled informal meetings on short notice and, as part of their meeting confirmation letter, has enclosed lengthy documents supporting their position. The Service was then requested not only to review the materials provided, but to develop and present an equally detailed rebuttal.

Mitigation versus enhancement -- Hydropower developers have raised as an issue the distinction between "mitigation" and "enhancement." Congress did not define these terms in the ECPA amendments, and in the context of relicensing of projects that are constructed and operating, the two terms sometimes become confused. Confusion generally involves the difficulty in distinguishing enhancement of existing resources from the mitigation of initial or ongoing adverse impacts. For example, an increase in instream flow below a dam may enhance the fishery over what currently exists. However, when compared to the fishery that existed before the dam was constructed, it only mitigates the impacts of continuing to operate the dam.

Despite the disagreement over the definitions of mitigation and enhancement, the bottom line is that ECPA provides for implementing recommendations for both. Consequently, the Service will make recommendations to meet resource goals regardless of whether they are an improvement over existing conditions or not.

Obtaining adequate information -- The lack of adequate information to document recommendations poses a significant problem to the Service. Although the Service conducts some studies and develops some information, in the majority of cases, the Service relies heavily on studies and information provided by the applicant to serve as the basis for recommendations. The section 4.38 pre-filing consultation regulations promulgated by FERC require applicants to perform studies and provide information. The Service generally works diligently with applicants to obtain necessary information. Most applicants are cooperative. However, in some instances it is unduly difficult to get the information needed to develop biologically sound recommendations.

Without adequate information, the Service is unable to make recommendations or is forced to make recommendations based on a "worst-case" scenario. FERC may find such "worst-case" recommendations inconsistent with the FPA since they are not based on substantial evidence. Consequently, our recommendations may be rejected. Consistent with recent court decisions, the Service believes that studies should be completed prior to licensing so that all measures for the protection, mitigation, and enhancement of fish and wildlife are incorporated as license conditions. It is extremely difficult to modify projects after they are licensed and we hope to avoid this situation.

Hydropower developers have questioned the Service on the degree of baseline information needed for the Service to adequately review a request for relicensing. Particularly, they are concerned as to whether the Service will request information on pre-project conditions. In many cases where pre-project information is available, this information is necessary for the Service to determine whether fish and wildlife resources previously committed by the project should be recommitted.

Participation by FERC -- For many years the Service has identified as a significant problem the lack of participation by FERC early in the prefiling process. Often, resource agencies and applicants have been left to coordinate, with no FERC involvement. The Service has found that FERC's awareness and understanding of the issues is greatly enhanced when FERC visits the project sites and engages in discussion with the agencies and applicants. Subsequent decisions are likely to be more responsive to the local situation.

The numerous outreach presentations made by FERC across the country in the past year and an increasing number of field visits to potential sites by FERC staff are testimony to a gradual change in FERC's prefiling process. Even more encouraging is the provision in FERC's relicensing regulations for their notification and participation in consultation meetings between resource agencies and applicants. The Service encourages FERC to continue to become more activity involved in the consultation process.

Economics and balancing -- The Service acknowledges that it is FERC's responsibility to balance competing uses. To complement this responsibility, the Service provides Federal leadership and expertise to conserve, protect, and enhance fish and wildlife and their habitats. Therefore, the Service provides the fish and wildlife expertise which FERC must equally consider in balancing competing uses.

Service biologists do not have the expertise and should not be expected to evaluate complex and detailed economic data or to conduct a cost/benefit analysis of study requests or recommendations. During the process of evaluating a project and identifying impacts, all practicable means to meet mitigation and enhancement goals should be identified and compared. Service biologists, generally, recommend the least costly method for mitigation and enhancement goals that would still effectively meet those goals.

Reimbursement -- Section 30 of the Federal Power Act was amended by ECPA to provide for reimbursement to the Service and other resource agencies for studies and reviews conducted to set mandatory terms and conditions. Since passage of ECPA, the Service has sought reimbursement for few projects. Generally, the costs of reviews and studies are small and the administrative burden for cost reimbursement outweighs the benefit of being reimbursed.

Conversely, significant study needs are expected to develop soon relative to the relicensing of numerous major projects nationwide. The ECPA amendments do not provide for reimbursement in association with relicensing of existing projects.

Cumulative impact assessment -- The Commission is responsible for considering cumulative impacts pursuant to the National Environmental Policy Act. Cumulative impacts are defined as those impacts which result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Several years ago FERC developed the Cluster Impact Assessment Procedure (CIAP), which was designed to assess the cumulative impact of multiple hydropower developments in river basins. The CIAP was used in a few river basins and has received much criticism from various Federal and State resource agencies, including the Service.

Presently, FERC uses a River Basin Assessment Methodology, which follows an environmental impact statement format. This methodology has been troublesome in that FERC often develops assessments and conclusions without adequate Service input. When inadequacies or points of disagreement arise, the burden of proof is often placed on the Service and the State agencies when, in fact, it is a shared responsibility belonging primarily to FERC and the applicant.

Cumulative impact assessment is an issue of great importance for relicensing actions. In the Service's view, it would be helpful if FERC coordinates with the resource agencies more extensively to develop an acceptable cumulative impact assessment methodology.

Mitigation followup/post-licensing consultation -- Although many of the Service's recommendations are being incorporated by FERC, and FERC has increased efforts at determining and insuring compliance, there has been little analysis of whether mitigation and enhancement measures implemented as the result of Service recommendations are effective. If the measures are not effective, the intent of ECPA regarding protection, mitigation, and enhancement of fish and wildlife resources cannot be achieved. Consultation with the Service should continue after licensing to insure that Services recommendation are implemented and are effective.

Although the Service has increased the number of followup studies conducted and consultations with some licensees after licensing, budget and manpower constraints have limited our participation in these important activities. The Service encourages FERC to become actively involved with the Service and other resource agencies in post-licensing activities.

Conclusion

Although the Service recognizes that hydropower is a clean, renewable source of electrical energy, we still must consider the environmental impacts associated with each project so that fish and wildlife impacts will continue to be accorded equal consideration in determining whether to license a facility. The Service also recognizes that the subjective nature of standards contained in the 1986 amendments allow for varying interpretations in implementation, but that it is our responsibility to identify fish and wildlife considerations for the proper balancing of competing uses.

There is no doubt that the upcoming relicensing workload will be time-consuming and controversial. Difficult decisions regarding energy development and environmental quality will require that careful decisions be made. However, with a sincere commitment to cooperation and through the combined effort and creativity of FERC, hydropower project applicants, and resource agency personnel, the Nation can develop and use hydropower in an environmentally sound manner.

Mr. Chairman, I appreciate the opportunity to address the Subcommittee on this important issue, and I will be pleased to answer any questions you may have.

Senator BURNS. Thank you. Thank you.

Dr. Foster, nice to have you with us today.

STATEMENT OF DR. NANCY FOSTER, DIRECTOR, OFFICE OF PROTECTED RESOURCES, NATIONAL MARINE FISHERIES SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, DEPARTMENT OF COMMERCE

Dr. FOSTER. Thank you, Mr. Chairman.

In the interest of time, I will likewise just submit my statement for the record, and try to summarize some of the key points.

Senator BURNS. It shall be done.

Dr. FOSTER. The agency that I am representing with the NOAA is the National Marine Fishery Service. And as you probably know, we are an active participant in many hydroelectric proceedings before the Federal Energy Regulatory Commission, and this is primarily based on our statutory responsibilities to ensure adequate production of anadromous fish, both for recreational and commercial fisheries and for use in Indian tribal fisheries.

What I would like to do today, is just, I would like to mention briefly six broad issues that we have identified that have been of concern to us in the implementation of this law. First, failure on the part of the commission to finalize proposed agreements governing consultation with my agency and with the Fish and Wildlife Service. Continued deferral of critical fish and wildlife issues until after the license has been issued. So they are deferring resolution of these issues until after the licensing.

Third, lack of reliance by the commission on the recommendations and expertise of both my agency and other natural resource agencies on pre-licensing information needs and on proposed license conditions. Failure to implement comprehensive plans that have been developed under the Northwest Power Act; failure to adequately evaluate potential impacts of hydro power development in their public utilities regulatory policy act or report to Congress.

And finally, we are concerned about the treatment of fish and wildlife standards and procedures in the recent relicensing regulations. I am sure you have noted that the testimony has specific examples for each of these concerns, and I will not deal with the specific examples today. Except I would like to just make a few points.

Regarding consultation, because this is, I think one of the key issues that sort of underlies everything that you have heard today. Now right after ECPA was passed, at the urging of FERC, we got together with them in a series of meetings to try to draft a proposed memorandum of agreement that would govern interagency coordination and cooperation. It was to cover a lot of things, but two of the key things would have been the pre-licensing consultation, and resolution of interagency conflict. And these seem to be the two things that cause the most problems. We had a draft agreement hammered out by the middle of July in 1987, and had expected it to be finalized by the end of that summer.

At that point, however, this whole idea was dropped by the commission without any explanation or notice at that time. And we just found out this year that they have decided to address this consultation through regulations instead of through an MOA, which we think is too bad. Because if you can get agencies to agree through a memorandum of agreement, you have essentially got them to buy into a process, a mutually agreed-upon process. And we think that the regulatory process does not accomplish the same thing.

Post-licensing deferral of fish and wildlife conditions—we find that in spite of contrary direction that has been provided by court cases, and also we feel by the law, FERC continues to postpone resolution of important fishery issues to postlicensing consideration. And I think if you look at the testimony, you will see from the examples that we give, that when this happens, it often leads to project delays, because you will often have appeals, you will have requests for rehearings and many times you will have litigation. And it is inevitable that this will lead to delays.

With regard to disregarding resource agency views, most of the examples in the testimony relate, because all of these issues are interrelated. You can see from the examples that we have instances where FERC has overruled prelicensing information needs that have been identified by, again, both by my agency and other resource agencies, even when the agencies can make the case, that they need this information in order to recommend licensing conditions or to prepare the mandatory conditions under Section 18.

Now, again, the commission continues to do this, even thought there have been court cases, which they have lost, which involves similar circumstances. So this sort of remains unresolved. Also their disregard of recommendations is showing up on actual license conditions. And we are concerned for a lot of reasons. One being, and sometimes when this happens, as you can see again from the example in the testimony, the commission winds up in the position of trying to make a decision on what is essentially a single purpose hydroelectric project, which we believe is clearly not the intent of the law and certainly not in the public interest.

The only other point I would like to make is our concern with the relicensing regulations. We are concerned that they shift the burden of proof for both project impacts and designing mitigation measures to the resource agencies. And that they do not provide enough deference to information and study needs identified by the agencies.

And finally, that they accept the status quo conditions, which we feel are often damaging to fish as the baseline for determining impact. I would like to emphasize, since this sounds very negative, that not every hydroelectric project that we deal with has these problems. In fact, most of the project applicants are very cooperative, we work very well with them, and they are committed to generating the needed information and doing what we consider to be the right thing for fishery resources. In fact, most of the applications we review are handled without opposition. We oppose, we figure, less than 5 percent.

One final point, we believe very strongly in the provisions of this law, and we think that it can work. We think that it is just going to take a renewed commitment on all of our parts. We think that if we do not come up with some solution to this problem, these problems that we are having, that we are going to continue to see delays, and we will continue to have litigation. And what that really means, is that we are letting the courts resolve our interagency conflicts, which is really not good business, especially for the taxpayer. And it is not doing the natural resources any good either.

So thank you. And I would be pleased to answer any questions.

[The prepared statement of Dr. Foster follows:]

TESTIMONY OF

DR. NANCY FOSTER
DIRECTOR, OFFICE OF PROTECTED RESOURCES
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
COMMITTEE ON ENERGY AND NATURAL RESOURCES
U.S. SENATE

SEPTEMBER 28, 1989

Thank you for the opportunity to appear today on behalf of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, to discuss the implementation of the Electric Consumers Protection Act (ECPA). My name is Nancy Foster, and I am the director of the National Marine Fisheries Service (NOAA Fisheries) Office of Habitat and Protected Resources. NOAA Fisheries is an active participant in many hydroelectric proceedings before the Federal Energy Regulatory Commission (FERC), primarily based on our statutory obligations to assure adequate production of anadromous fish, such as salmon and striped bass, for commercial, recreational, and Indian tribal fisheries. In keeping with ECPA, mitigation of hydroelectric project impacts is a potential cost of doing business for project developers.

In 1986, when ECPA was enacted, litigation on fish and wildlife issues by NOAA Fisheries and other fish and wildlife interests was common; more often than not, natural resource interests prevailed.

ECPA was expected to end these persistent conflicts over fish and wildlife by changing FERC practice. For example, ECPA contained new standards designed to prevent deferral of fish and wildlife issues until after licensing; mandated greater deference to the expertise of NOAA Fisheries and other resource agencies; and imposed new substantive standards for protection, mitigation, and enhancement of fish and wildlife. NOAA Fisheries continues to support these and related revisions made by ECPA.

It has been almost three years since ECPA was enacted. Unfortunately, I must report that today many of the practices which prompted ECPA's fish and wildlife provisions still occur. Equal consideration of anadromous fish needs and true multiple use of water resources are still goals rather than reality.

I would like to describe some of our concerns regarding implementation of ECPA-mandated responsibilities. We have identified six broad issues: 1) failure to finalize proposed agreements governing consultation with NMFS and the Fish and Wildlife Service; 2) continued deferral of critical fish and wildlife issues, such as fish passage, to post-licensing resolution; 3) the lack of reliance on the recommendations and expertise of NMFS and other fishery agencies on pre-licensing information needs and proposed license conditions; 4) failure to implement comprehensive plans developed under the Northwest Power Act; 5) failure to adequately evaluate potential impacts of hydropower development in FERC's Public Utilities Regulatory Policy Act (PURPA) report to Congress; and 6) the treatment of fish and wildlife standards and procedures in FERC's recent relicensing regulations. For example, FERC has chosen to shift the burden of proof regarding potential and existing project impacts away from licensees onto NMFS and other fish and wildlife agencies. The following are specific examples which illustrate these concerns.

Consultation: Memorandum of Agreement (MOA): Shortly after the passage of ECPA, and at FERC's request, FERC and NMFS staff met on repeated occasions to draft a proposed Memorandum of Agreement on interagency coordination and cooperation. By mutual consent, the agreement addressed pre-licensing consultation, notice and comment, conflict resolution, and cooperation in enforcement and compliance between our two agencies. A draft agreement was completed by July 1987, and a final agreement was expected to be signed by the end of summer 1987. At that point, however, FERC decided not to pursue the Memorandum of Agreement approach, without any explanation or notice. Earlier this year, FERC announced that consultation with Federal and State resource agencies would be addressed in new FERC regulations rather than through an MOA.

Post-licensing Deferral of Fish and Wildlife Conditions: Despite contrary direction provided by court cases and by ECPA, FERC continues to postpone resolution of important fishery issues, such as the design of fish passage facilities, to post-licensing consideration. A good example of this problem is the Grave Creek Project, No. 6568, located in Oregon. Although we attempted to carry out an appropriate pre-licensing consultation, we found that the applicant did not respond to NOAA Fisheries' repeated requests for specific fish mitigation information, particularly with respect to fish passage. On June 29, 1987, without providing the requested information, the applicant filed a request for expedited licensing. The next day, without waiting for NOAA's response to the applicant's request, and without any consultation, FERC issued a license for the Grave Creek Project. Because the license deferred resolution of all fish issues, merely requiring the submission of post-licensing mitigation plans, and because our concerns had not been addressed as required by ECPA, NOAA Fisheries had no choice but to file a formal appeal.

After license issuance, but again with no consultation, FERC issued an order accepting post-licensing engineering drawings for the Grave Creek Project. The drawings were inadequate for fish because they did not meet anadromous fish passage criteria and had not been approved by NOAA Fisheries. FERC's failure to consult NOAA Fisheries was particularly puzzling because, unlike our agency, FERC does not have the specific technical expertise needed to assess the adequacy of the design. NOAA Fisheries appealed the FERC order on the same grounds as our appeal of the project license, but FERC dismissed this appeal, contending that we lacked standing to appeal such a post-licensing decision.

FERC has issued a license which reserves authority for the Commission to require development by the licensee of fish passage facilities and NOAA appealed this action. FERC has not yet acted on NOAA Fisheries' appeal of the Grave Creek license.

Disregarding Resource Agency Views: As the Grave Creek example indicates, FERC may overrule pre-licensing information needs identified by NOAA Fisheries and other resource agencies, even when the agencies require the information to develop their recommended license conditions under section 10(j) of ECPA or their mandatory license conditions for fish passage under section 18 of the Federal Power Act (FPA). FERC does this if, in FERC's view, it is necessary to allow FERC to meet its mandates under current law. However, it is the view of NOAA and FWS that FERC should not "second guess" the technical expertise of the resource agencies. FERC continues to operate in this manner, even though it has lost court cases involving similar circumstances. For example, in both the Yakima and La Flamme cases, the court agreed with the fish and wildlife agencies that FERC did not develop an adequate record upon which it could base its licensing decisions. These issues remain unresolved even though ECPA mandates greater deference to resource agency expertise.

Since the enactment of ECPA, this issue has taken on new proportions, as FERC has rejected information needs identified as essential by both Federal and State agencies for more than fifteen license applications in the Salmon River Basin, Idaho. Similar problems have cropped up in connection with other applications elsewhere, and for individual license applications in the Pacific Northwest. The information being requested by the agencies in these proceedings is nothing exceptional or unusual; many responsible hydroelectric developers voluntarily develop the same information. For example, pursuant to a settlement agreement covering the Skagit, Snohomish, and Nooksack River Basins, hydroelectric developers in Washington are meeting uniform study guidelines set out by NOAA Fisheries, other resource agencies, and interested Indian Tribes.

FERC's disregard of agency recommendations is also showing up on actual license conditions. For example, based on preliminary information submitted by the applicant, which NOAA Fisheries has identified as inadequate, we are concerned that FERC may conclude that temperature control facilities will not be in the public interest at the Blue River Project, No. 3109, in Oregon. We are also concerned that FERC may disregard NOAA Fisheries' views on fish screening facilities and temperature control under ECPA if it determines that those facilities are not in the public interest under sections 4(e) and 10(a) of the FPA. The result is that FERC may now plan to issue a license for a single purpose hydroelectric project at Blue River Dam. FERC's position has prompted the filing of a petition to intervene by five fishing groups.

Rejection of Comprehensive Plans Under the Northwest Power Act: Although ECPA mandates greater FERC consideration of comprehensive plans developed by Federal and State agencies, FERC's reaction to date has not been positive. A good example is the Columbia Basin Fish and Wildlife Program and Regional Energy Plan under the Northwest Power Act. Although the Regional Energy Plan identifies protected areas in the Northwest which should be off limits to new hydro development because of adverse fish and wildlife impacts, FERC has indicated in correspondence with NOAA Fisheries that it will continue its case-by-case evaluation of projects within protected areas. FERC maintains that this is consistent with their responsibility under the law.

On other occasions, FERC has not complied with the comprehensive plan provisions of ECPA on an individual project basis either. In a recent license issued to the White River Project, No. 7270, in Oregon, FERC cited an out-of-date version of the Columbia Basin Fish and Wildlife Program, failed to address the specific provisions of the Program calling for fish passage at the project, and did not mention other Federal comprehensive plans for fish mitigation, compensation, and management. NOAA Fisheries and the Warm Springs Indian Tribe have appealed the license issued for the White River Project.

Section 8(d) PURPA Report: In its report to Congress pursuant to section 8(d) of ECPA, FERC asserted that continuing

PURPA benefits to hydroelectric projects would have negligible environmental effects. This conclusion was based upon several assumptions, including one that no projects would be developed on streams containing anadromous fish, that dams less than six feet high have no adverse impacts on anadromous fish passage, that impacts to fish are based solely on the proposed length of the diverted reach, that cumulative adverse impacts to fish require geographic proximity of projects, and that such projects would displace coal-fired generation. The impact on ratepayer and taxpayer programs to improve fish runs and the effects on commercial, recreational, and Indian Tribal fisheries were not considered. FERC did not accept NOAA Fisheries' recommendations on these and other points.

Relicensing Regulations: FERC's new regulations on relicensing seriously erode NOAA Fisheries' ability to correct damaging conditions at non-Federal hydro-electric projects, and to ensure that future operation of these projects is in the public interest. The new regulations shift the burden-of-proof on project impacts and mitigation measures to fish and wildlife agencies; fail to provide deference to information and study needs identified by the agencies; and accept status quo conditions, which are often damaging to fish, as the baseline for determining project impact. Because of these and other problems, NOAA Fisheries and several State agencies and Indian Tribes, have requested rehearing on the regulations. The regulations and appeals on them at this point are being considered by the Commission.

It is important to emphasize that not every hydroelectric project experiences the problems I have just identified. Many project applicants are very cooperative and committed to resolving fish mitigation and enhancement issues. Most of the applications we review are handled without NOAA Fisheries opposition.

We believe that the provisions of ECPA can be made to work, but this will require a renewed commitment from FERC and the fish and wildlife agencies. We are willing to make the necessary commitments, and hope that FERC will do the same. Otherwise significant time, effort, and money will undoubtedly be expended on litigation over fish and wildlife issues, to the detriment of hydropower applicants and fish and wildlife agencies alike.

I will be pleased to respond to any questions you may have.

Senator BURNS. Well, you have already answered part of them, because from what I gathered here, and you can correct me, and I will stand corrected if, it sounds like we have jumped in on a turf war.

Dr. FOSTER. A turf war?

Senator BURNS. Yes.

Dr. FOSTER. Well, I did not mean to imply that. Or maybe I did. I do not know.

Senator BURNS. Am I sensing that, is that a wrong sense that I am getting the wrong signal here? I have a question that may be for Mr. Moffett and Ms. Foster too. Your agencies have been called pretty much single-minded. Now I have some problems with my colleagues in the Senate. They are very cooperative and sometimes I think they know all the answers, I guess I must be asking the wrong questions.

I get that feeling every now and again. But when it comes down to the final vote, well, I found out I have not made my case very well. We are all I guess, a little bit guilty of this, you focused maybe just on your issues without taking into account all of the issues that maybe that FERC has to punch into this databank before they make a decision.

How do you answer that? This says that your issues are too narrow here. You just take this one stand and you will not come off of it. How do you respond to that?

Dr. FOSTER. Well, it is—I think it is fair to say that our principle concern is conservation of the resources for which we have responsibility and for which we are trustees. But certainly we are all citizens of the country. And as they heard this morning, I mean, we are all concerned about good, clean power production. And we have that concern, but that is certainly not our principle concern. And we do work with the other agencies involved in this process. So I do not think that is—if that is what you were suggesting about your comment about turf.

I mean, we work with state agencies, we work with the fish and wildlife service and we work with the commission as well, in trying to resolve the issues up front, before they become a problem later in the process and I think that is the key.

Senator BURNS. Mr. Moffett.

Mr. MOFFETT. I would agree with Dr. Foster in the fact that we need to get the issues on the table, up front, so everybody can deal with them. But as far as ultimately who does the analysis of trading off the various aspects that have to be considered, that authority rests pretty much with FERC. And since we are concerned by legislation, pretty much fish and wildlife related issues.

Senator BURNS. Mr. Colquhoun, should states be able to place conditions not related to water quality on 401 water quality certificates under the Clean Water Act?

Mr. COLQUHOUN. The way I read the Clean Water Act, it applies to water quality. I think some of the criticisms of 401 water quality certificates are that when they say that water quality is not what is being considered and inadequately brought definition of water qualities being considered, flow is important for water quality.

We routinely put minimum flow requirements on our 401 certificates. But flow affects temperature, oxygen, perhaps dissolved solids, many of the things for which we have state water quality standards.

Senator BURNS. How can we square that with the role of FERC under the Federal Power Act?

Mr. COLQUHOUN. Senator, I do not, I do not know about the process as in terms of a specific recommendation. I would say that our 401 recommendations are always and will always be consistent with our consultation comments to the FERC. So we do not ask for one thing on one hand, and one thing on the other hand. We have—are in the process right now, as a matter of fact, of revising the consultation letter to the FERC, to account for the fact that we have issued a 401 water quality certificate with a different minimum flow than we had previously requested from the FERC. We will strive to make those consistent.

Senator BURNS. Again, I want to thank you for coming today. I have no further questions. Your statements will be entered in the record and if there is any additional questions, we will address them to your specific agencies.

Again, I want to thank you for taking the time out today to appear. I am sorry we ran so long and with the interruptions. I realize that is sort of a bad thing for you. But thank you very much.

[Whereupon, at 1:12 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

CHAIRMAN

September 26, 1989

Dear Mr. Chairman:

Thank you for your letter dated September 6, 1989, enclosing a set of pre-hearing questions for response prior to the hydropower oversight hearings which your Subcommittee on Water and Power has scheduled for September 28.

I appreciate your interest and am pleased to submit the enclosed responses to your questions prepared by the Commission's staff.

Under separate cover, I will forward fifty (50) advance copies of my prepared testimony for the Subcommittee's review.

My fellow Commissioners and I look forward to appearing before your Subcommittee on September 28. If I can be of any further assistance, please do not hesitate to call me.

Sincerely,

Martha O. Hesse

Honorable Bill Bradley
Chairman
Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

Question 1: How many projects have been constructed in National Parks under FERC license?

Answer: We are aware of seven licensed projects that are located in national parks or are very closely associated with national parks:

P-0298	Kaweah Project, Southern California Edison Co., Sequoia National Park, California
P-0460	Cushman Project, City of Tacoma, Washington, Olympic National Park, Washington
P-0588	Glines Canyon Project, James River II, Inc., Olympic National Park, Washington
P-2516	Dam No. 4 Project, Potomac Edison Co., C & O Canal National Historical Park, West Va.
P-2517	Dam No. 5 Project, Potomac Edison Co., C & O Canal National Historical Park, West Va.
P-2790	Lowell Project, Boott Hydropower, Inc. and the General Electric Credit Corp., Lowell National Historic Park, Massachusetts
P-5223	International Falls Hydroelectric Power Project, International Falls Power Company, Voyageurs National Park, Minnesota

The history of most of these projects is quite complex. However, in general, none of these projects were initially constructed in national parks under FERC or Federal Power Commission (FPC) license. For example, the Glines Canyon Project No. 588 was constructed under FPC license to use, in part, national forest lands which have since become national park lands. Many of the other projects were initially constructed prior to licensing by the FPC or FERC. The license for the Lowell Project No. 2790, though, issued in 1983, authorized additional generating capacity and related facilities. Somewhat similarly, the license for the International Falls Hydroelectric Project No. 5223, issued in 1987, authorized the rehabilitation of existing generating units. The licensing of Project Nos. 2790 and 5223, as well as actions on the other projects which now involve national parks, have been or are being coordinated with the Department of the Interior, National Park Service.

Question 2: How many projects have been constructed in National Wildlife Refuges under FERC license?

Answer: There are two licensed projects that are located in National Wildlife Refuges. The Terror Lake Project, FERC Project No. 2743, was licensed in 1981, construction initiated on June 16, 1982, and the project was completed on March 31, 1985, on the Kodiak National Wildlife Refuge, Kodiak Island, Alaska. The Cascade Creek Project, FERC Project No. 9424, was licensed in 1987, construction initiated on April 14, 1989, and the project is scheduled to be completed on April 14, 1991, on the Kootenai National Wildlife Refuge, Idaho. The Federal agencies responsible for both of these National Wildlife Refuges did not object to licensing these two hydropower projects.

Question 3: How many projects have been constructed under FERC license on a river after any state has designated it a protected or scenic river?

Answer: The Commission does not keep this information in any of its automated data systems. However, staff that have been directly involved with wild and scenic rivers were surveyed and no one was aware of any hydropower project having been constructed under an FERC license after state designation to protect a river. The staff also contacted representatives of the National Park Service and American Rivers. Representatives of these organizations were also unaware of any projects constructed on state designated streams.

Question 4: How many projects have been constructed in National Forests under FERC license and over the objections of either the Secretary of Agriculture or the Chief of the Forest Service?

Answer: The Commission does not keep this information in any of its automated data systems. To the best of staff's knowledge and, after reviewing available records and contacting the Washington Office of the Forest Service, no one is aware of any case where a project has been constructed under a FERC license in a National Forest over the objections of either the Secretary of Agriculture or the Chief of the Forest Service.

The staff is currently participating with the Forest Service on an advisory basis in the Forest Service's effort to update its Hydroelectric Handbook (FSH 2709.15) and Title 2700 Manual. The Forest Service effort involves two working groups, industry and environment, that are independently making recommendations to the Forest Service. The staff believes the updating process is proceeding well and understands that the Forest Service plans to publish its updated handbook and manual in the Federal Register sometime in November of this year.

Question 5: How many projects described in questions 1 through 4 have been licensed in the past 15 years?

Answer: Three projects identified in the response to question 1 were licensed in National Parks within the past 15 years. These are the Lowell Project in Massachusetts and the Dam No. 4 and Dam No. 5 projects in West Virginia. Two projects identified in the response to question 2 were licensed in National Wildlife Refuges within the past 15 years. These are the Terror Lake Project in Alaska and the Cascade Creek Project in Idaho. As stated in the responses to questions 3 and 4, the staff believes that no project has been licensed on a state designated protected or scenic river, or in a National Forest, over the objections of the Secretary of Agriculture or the Chief of the Forest Service.

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Question 6: What percentage of FERC's licensed hydroelectric capacity is used for peaking purposes?

Answer: As of January 1, 1989, the operating licensed capacity was 46,444,555 kw. Of this total, 14,867,274 kw, or 32 percent, was peaking capacity.

Question 7: If existing hydroelectric capacity is required in relicensing to be converted from peaking to run-of-river operation, what analysis is performed on the environmental impact of acquiring replacement peaking power (either through purchase or construction of new generation)?

Answer: To date, the Commission has not required any hydroelectric capacity to be converted from peaking to run-of-river operation. Should that issue arise in a relicensing proceeding, the analysis would consider several factors; among them the effects of the change of operating mode on the project, the resources in the project area, the operational value of the peaking power to the project operator, and the financial consequences to the project operator. Acquisition of replacement peaking power would be considered from both an environmental and financial perspective. Potential environmental impacts could include the purchase or construction of new generation, but alternatively might require the project owner to make different use of other existing power generation resources.

Where replacement of peaking power would come from unconstructed sources (ie. a proposed fossil-fueled plant, gas turbines, a nuclear plant, etc.) and those projects and their impacts are not well defined, an in-depth analysis of the replacement power source and its impacts would not be possible. Also, when deciding whether to modify or eliminate peaking operation of a hydroplant, the staff would consider, among other things, the loss of the flexible characteristics of hydro peaking (i.e. quick start up and shut down) and the impacts of the conversion on the licensee's power system.

Question 8: In order to give equal consideration to power development, energy conservation, protection of fish and wildlife, recreation and other aspects of environmental quality - as required by section 4(e) of the Federal Power Act (FPA) - what are the procedures used by the Commission to quantify each of these resource goals. Does the Commission employ a cost benefit analysis?

Answer: The Commission's staff conducts specific analyses to quantify developmental (power, irrigation, flood control and water supply) and nondevelopmental (environmental) values associated with hydropower project proposals when giving equal consideration to these resources. After fully investigating and evaluating developmental and non-developmental values the Commission must strike an appropriate balance among these values.

First, staff reviews and considers all pertinent comprehensive plans on resources filed by federal, state and interstate agencies to determine the resource goals of these entities.

Second, the Commission requires project applicants -- in its pre-filing agency consultation regulations under 18 C.F.R. sections 4.38 and 16.8 -- to quantify existing resources and potential project impacts to those resources.

Staff learns more about the value of the resources affected by the project by requesting comments and recommendations from federal and state agencies with expertise in these areas. Staff then prepares an independent environmental assessment or environmental impact statement pursuant to NEPA that quantifies affected developmental and non-developmental resources and potential impacts on their current uses. In many instances, staff quantifies the value of environmental resources in terms of their actual use, e.g. recreation user days, angler days, or current dissolved oxygen levels. At the very least, staff describes in subjective terms the value of environmental resources and the cost of the mitigation measures that will protect and enhance those resources.

A separate safety and design assessment (S&DA) independently examines the safety of the project, the project's utilization of available head and streamflow, and the need for and value of project power.

In the need for power analysis, staff determines the market for the power produced by the project and whether utilities in the market currently need power resources to meet load. In so doing, the latest power resource and requirements data available from the electric power industry, including the best estimates of load reduction expectations of the existing and planned conservation programs, are employed. If the existing power resources are adequate -- with an acceptable reliability -- staff estimates when new resources would need to be added. From a study of power needs, staff places a value on the project power -- whether the power is base-load or peaking power -- that is incorporated into economic benefits and financial feasibility analyses.

The staff performs economic and financial feasibility studies which quantify the power benefits of the project. Although this analysis takes into account all project costs and benefits, it is not considered to be a classical cost/benefit analysis usually referred to by economists. In our studies, staff determines the energy that the project would produce: as proposed by the applicant, with the mitigation and enhancements recommended by agencies, and with staff's recommended environmental measures. The economic analyses show whether the proposed project is more or less expensive to construct and operate than the alternative power resource in the region. Staff quantifies these costs and benefits in dollar terms where possible, i.e. mills per kilowatthour, dollars per acre-feet, etc. In financial feasibility studies staff examines the project's rate-of-return to see whether the project could potentially be financed and constructed by the applicant.

Staff is following closely research being conducted by the the Electric Power Research Institute to evolve a cost/benefit analysis for use in making comparisons between competing developmental and non-developmental resources.

Question 9: What is the Commission's understanding of the distinction between the terms "mitigation" and "enhancement"?

Answer: The term mitigation means to lessen resource value loss caused by the project by implementing loss prevention measures. The term enhancement means to improve the resource value over its present value at the project location by implementing resource augmentation measures. The present value of a resource impacted by a project up for relicensing is the status of the resource as it exists today.

Question 10: Of the resource goals required to be given "equal consideration" by section 4(e) of the FPA, only the "protection, mitigation and enhancement of fish and wildlife" is qualified by the term "adequate" in section 10(a) of the Act. In this context what does the term "adequate" mean to the Commission?

Answer: The Commission has not addressed this particular question in any of its orders.

Section 10(a)(1) of the Federal Power Act, as amended by the Electric Consumers Protection Act of 1986 (ECPA), states that the Commission shall issue a license to the project that in its judgment

> will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water power development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e)... .

Section 4(e) provides in pertinent part that, in deciding whether to license a project,

> the Commission, in addition to the power and development purposes for which licenses are issued, shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (included related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

Since Section 4(e) specifically provides that the Commission shall give "equal consideration" to, among other things, fish and wildlife, it is unclear what the Section 10(a)(1) term "adequate protection" of fish and wildlife adds to the equation.

In this regard we note that the Conference Report on ECPA states:

> The conference agreement melds together the House and Senate amendments to sections 4(e) and 10 of the Federal Power Act relating to environmental concerns. * * * * * The amendments expressly identify fish and wildlife protection, mitigation, and enhancement, recreational opportunities, and

> energy conservation as nondevelopmental values that must be adequately considered by FERC when it decides whether and under what condition to issue a hydroelectric license for a project.

H.R.Rep. 99-934 at 1 (Sept. 30, 1986). Inasmuch as the legislative history of ECPA reflects a concern about the adequacy of the Commission's consideration of nondevelopmental values, and in light of the "equal consideration" mandate, it would appear that the term "adequate consideration" is directed at elevating the level of the Commission's consideration of fish and wildlife, as opposed to suggesting a lower level of concern for fish and wildlife than for those project purposes which are cited in Section 10(a)(1) without the "adequate consideration" modifier. The Conference Report states, however, that equal consideration does not necessarily result in equal treatment. Id.

Question 11: What is the Commission's interpretation of the words "adequately and equitably" as set out in section 10(j) of the FPA?

Answer: The Commission has not addressed this particular question in any of its orders.

Section 10(j) of the Federal Power Act, as added by the Electric Consumers Act of 1986 (ECPA), provides in part that,

> in order to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat) affected by the development, operation, and management of the project, each license issued under this Part shall include conditions for such protection, mitigation, and enhancement.

Section 10(j) originated in the House bill, H.R. 44. The House bill's version of the above-quoted provision had an additional phrase which required conditions to "adequately protect" fish and wildlife "in a manner that provides equitable treatment for such fish and wildlife with the other purposes for which the license is issued ... ." The "equitable treatment" language also appeared in the House bill's amendments to Section 10(a) of the FPA. (The language tracks the text in Section 4(h)(11)(A) of the Pacific Northwest Electric Power Planning and Conservation Act, dealing with the Columbia River Basin Fish and Wildlife Program.) However, the conferees removed the "equitable treatment" clause in both Sections 10(a) and 10(j) and instead adopted "equal consideration" in Section 10(a) and required the conditions discussed in Section 10(j) to "adequately and equitably protect" fish and wildlife.

In describing the legislation as enacted, Chairman McClure stated:

> The conferees agreed to change the word "treatment" in the House provision to "consideration" to avoid any possible implication that the new section 10(j) imposed a substantive standard for actual conditions rather than a procedural requirement for review of recommendations. "Equal consideration" is the standard for review in both sections 10(j) and 4(e).

99 CONG. REC. S15384 (Oct. 6, 1986). Thus, the language of Section 10(j) must be read in a manner consistent with the requirements of Sections 4(e) and 10(a)(1) of the FPA, as is discussed in the answer to Question 10 above.

Question 12: What tools does the Commission employ (i.e. cost/benefit analysis) to assess whether a study request made by a resource agency in the course of licensing is reasonable?

Answer: Because of the Ninth Circuit Court's Yakima decision and the Federal Power Act as amended by the Electric Consumers Protection Act, the Commission must resolve significant resource issues prior to taking action on any license application and must base its decision on an adequate record.

The Commission will assess both the information presented by the agency requesting the study and the information provided by the applicant in determining whether a study request is reasonable. A case-by-case decision will be made based upon whether the study results would provide the agency and the Commission with information necessary to make an informed decision on the license application. The Commission staff will evaluate the information provided by the agency which: (1) identifies the necessary studies or the information the applicant is expected to provide; (2) identifies why the study is needed; (3) discusses the agency's understanding of the resource issues and the agency's goals and objectives for these resources; (4) explains why a study methodology recommended by the agency is more appropriate than other available methodology alternatives, including those identified by the applicant; (5) documents that the proposed study is generally considered as an accepted practice ; and (6) explains how the studies and information requested will be useful in furthering the agency's resource goals and objectives.

The staff will also assess the costs of preparing a proposed study, taking into account the size and scope of the project, and ensure that any information needed will be obtained by the least expensive means. There may be instances where needed information may be obtained by a less costly study than that proposed by an agency and in that case the applicant would be required to perform only the less costly study. However, there may also be instances involving small projects which affect significant resources, where the costs of performing necessary studies are large in comparison with the value of the project.

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D. C. 20426

November 6, 1989

Dear Mr. Chairman:

Thank you for your letter of October 17, 1989, enclosing post-hearing questions pursuant to your Subcommittee's September 28 hearing on the Commission's regulation of hydroelectric power facilities under the Federal Power Act.

I appreciate your interest and am pleased to forward the enclosed responses prepared by Commission staff. These responses do not reflect the views of other commissioners, which will be submitted to you under separate cover.

If you have any further questions or need additional information, please let me know.

Sincerely,

Martha O. Hesse

Enclosures

Honorable Bill Bradley
Chairman
Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

QUESTIONS FOR THE RECORD FROM SENATOR BUMPERS

Question 1 (a): Several witness expressed the opinion that the Commission needs to commit more budget and staff resources to hydropower licensing, particularly to environmental reviews. I understand the sensitivity of personnel ceilings in the federal government. However, the wave of relicensings (almost 200 projects in the next 3 years) will place tremendous pressure on the agency for a decade or more. That seems to be a long enough time to justify adding full time employees rather than depending upon contractors.

(a) What are your comments on this statement? How many personnel are assigned to Hydro now?

Answer: Although we are not increasing the total FTE ceiling of the Commission, we have shifted staff internally to the hydropower program primarily to gear up for the relicensing workload and to handle the increasing compliance work. The total FTEs assigned to the Hydropower program in FY 1990 are 441, an increase of 22 from FY 1989, 70 % of which is for the Office of Hydropower Licensing (OHL), which is the office responsible for our hydropower programs.

Question 1 (b): What plans do you have to request more personnel and budget for the hydropower program?

Answer: Our budget request for FY 1991 that we recently submitted to OMB includes more people and funds for the hydropower program. We did not ask for an increase in total Commission staff but have shifted staff into the hydropower program beginning in FY 1990 and additional shifts are planned in FY 1991. We also have requested more funds in FY 1991 for contracts to help us with our ever increasing environmental workload.

Question 1 (c): Have you done an analysis of your budget and staffing needs? Could these budget needs be covered by increased annual charges and fees?

Answer: The budget that was submitted to OMB last month contains what we feel we need to operate with, both in terms of staffing and funding, in FY 1991. We did ask for a small increase in total funding over FY 1990 but did not ask for any more staff. However, beginning in FY 1990 and continuing into FY 1991, we have increased both staffing and funding in the Hydropower program by shifting resources from other areas. As to covering any future increase by fees and annual charges, the entire cost of the Commission's operations is recovered through fees and annual charges. If the overall Commission budget increases, so does the amount of revenue collected, so that the net effect of any budgetary increase is entirely offset by a similar increase in revenue.

Question 1(d): If you hire outside consultants to perform the environmental assessments on projects, won't they be making value judgments on what is environmentally significant?

Answer: Both the OHL technical staff and the Commission's environmental services contractor (contractor) must use their technical expertise and professional judgement in determining the magnitude and significance of environmental impacts.

The primary selection criteria for the Commission's environmental services contractor was technical expertise and experience with hydropower development that was similar to the Commission's staff. The selected contractor demonstrated a high level of technical expertise, regulatory and legislative knowledge, and understanding of the Commission's mission in considering applications for the licensing of non-federal hydropower developments.

To ensure technical consistency of the contractor's deliverables every task assigned to the contractor is monitored by the Commission's technical staff.

Question 1(e): Will consultants be guided by Commission policy to the same extent as Commission staff?

Answer: Commission staff gives guidance to the contractor with regard to Commission regulations, procedures, and precedents. Within this framework, the contractor performs an independent environmental analysis of the issues associated with specific projects. The contractor is free to propose new approaches and solutions in analyzing impacts. All documents prepared by the contractor are reviewed and approved by OHL prior to publication. Final decisions with policy implications are made by the Commssion on the basis of the record, including the environmental assessments.

Question 1(f): Won't you be giving up some of your responsibility to review and make decisions?

Answer: Documents prepared by the Commission's staff or its contractor make up part of the record from which the Commission makes its public interest determination. Therefore, well prepared NEPA documents will help the Commission build a record to make decisions and not result in the Commission giving up any of its responsibilities.

Question 1(g): Is it good policy for FERC staff to become just contract managers and to not have substantive expertise on licensing issues?

Answer: The use of a contractor will not result in Commission staff becoming just contract managers, since most of the OHL staff are working directly on the Commission hydropower workload and therefore deal with licensing issues on a daily basis. The few contract managers that assist the Contract

Officer's Technical Representative in technical and policy reviews are already experienced in licensing issues.

In addition, the assistance of the contractor in preparing NEPA documents gives the Director of OHL the needed flexibility to manage a fluctuating hydropower workload.

Question 1(h): Does your licensing staff regularly get out in the field to visit hydroprojects and proposed sites? Why not?

Answer: The OHL licensing staff typically visits a site if direct observation of the hydropower project or site is essential in understanding the operation or environmental impacts of the project. A determination on the need for a site visit by staff is therefore made on a case-by-case basis. The regularity of site visits conducted by licensing staff in OHL when based on the above criteria is infrequent when compared to the number of hydropower projects being assessed. In addition, the contractor usually makes site visits in preparing NEPA documents.

Post-licensing inspections of all projects for compliance and dam safety reasons is done at the construction stage, and on a regular basis thereafter. The interval between regular inspections depends on the hazard classification of the dam, with high hazard dams being inspected more frequently.

Question 2: The process for relicensing an existing hydropower project appears to be very lengthy and complex. To assist the Energy and Natural Resources Committee in its oversight of FERC practices please provide the following information for each relicensing application currently pending before the Commission:

Name, FERC number and license type for the project

Name of applicant(s)

Identity of each applicant (existing licensee, competitor, etc.)

Expiration date of the existing licence

When each application was filed

When each application was accepted

When public notice of each application was published

Deadline for comments and intervention pursuant to the notice

Name of each intervenor in the proceeding

Short description of the status of processing for each application

If existing license has expired, an explanation of why the Commission has been unable to process the pending application and issue a new license before expiration.

OHL staff's currently scheduled date for issuance of a new license.

Answer: The information requested is provided on the following pages.

STATUS OF RELICENSE APPLICATION

Project Name	: Twin Falls Project
Project No.	: 18-001
Type of Application	: Major
Name of Applicant	: Idaho Power Company
Identity of Applicant	: Existing Licensee
Expiration Date of Existing License	: June 10, 1984
Filing Date	: June 30, 1983 (Material amendment filed in February 1985, and withdrawn in August 1986)
Acceptance Date	: April 25, 1985
Public Notice Issuance Date	: April 26, 1985
Deadline for Comments and Interventions	: June 10, 1985
Names of Intervenors	: Idaho Department of Water Resources Idaho Department of Fish and Game

Status of Application Processing: This project is currently being reviewed along with three other license applications (P-2899, 4797 and 5797) as part of an environmental impact statement (EIS) for projects located on the Upper Snake River in Idaho. On October 22, 1986, the Commission issued a notice of intent to prepare an EIS. This project was added to the EIS by scoping document II issued in February of 1987. In November of 1987 the Commission issued a draft EIS.

The Commission issued a license order on December 15, 1988, for the Milner Project No. 2899 before finalizing the EIS, so the licensee could start the repair of Milner Dam, thereby reducing the risk of dam failure.

Federal and state agency review and subsequent comments on the draft EIS triggered the applicants to conduct further studies to address the environmental concerns expressed by the agencies. Those studies have been filed with the Commission and are currently under staff review. After staff has completed its review of the studies, a supplement to the draft EIS incorporating staff findings will be issued in November of 1989. The final EIS is scheduled for issuance in March of 1990.

Project No.18-001 continued

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license.

By letter dated February 9, 1982, the applicant was granted until June 30, 1983, to file an application for a new license, approximately 1 year prior to expiration of the existing license. This time proved to be inadequate to allow a complete review and to act on the license application before the expiration date of the existing license.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Mokelumne River Project

Project No. : 137-002

Type of Application : Major

Name of Applicant : Pacific Gas and Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : November 23, 1975

Filing Date : December 26, 1972
(Amended April 8, 1981)

Acceptance Date : August 14, 1981

Public Notice Issuance Date : August 25, 1981

Deadline for Comments and Interventions : October 2, 1981

Names of Intervenors : East Bay Municipal Utility District
Amador and Calaveris Counties

Status of Application Processing: This case has been pending for many years because of the question as to whether or not municipal preference applies to relicensing cases. Project No. 137 originally competed with Project No. 2745, filed by the City of Santa Clara, California. This case was discussed in EPCA, and the City of Santa Clara, in accordance with Section 10 of ECPA, withdrew its application in exchange for compensation by Pacific Gas and Electric Company as provided by ECPA. Both parties informed the Commission earlier this year that an agreement in principle had been reached. The Commission informed both parties by letter dated September 25, 1989, to file an executed agreement within 90 days. The licensee is currently obtaining the necessary information to bring its application up to present standards. The additional information is scheduled to be filed by March 12, 1990. After receiving and reviewing the information, Commission staff will start work on a NEPA document, provided the information is determined to be acceptable.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: Competing applications and the municipal preference issue in relicensing prevented the Commission from acting on this case until after the expiration of the original license.

Date for Final Action on the Application: Early 1991

STATUS OF RELICENSE APPLICATION

Project Name : Escondido

Project No. : 176-018

Type of Application : Minor

Name of Applicant : City of Escondido, CA

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : June 24, 1974

Filing Date : April 1, 1971 (amended 1975 and 1976)

Names of Intervenors : LaJolla, Rincon and San Pasqual Bands of Mission Indians

Status of Application Processing: Application was filed and processed in 1970s. A new license was issued on February 26, 1979, but the license was remanded to the Commission by the 9th Circuit Court of Appeals for further consideration. This decision was upheld by the Supreme Court.

On November 17, 1988, Public Law 100-675 was passed, which stipulated that an agreement be reached between the Department of the Interior, the Pala Bands of Mission Indians, et al. and the licensee to resolve all claims, controversies, and issues involved in all the pending proceedings. The law establishes no deadlines for reaching an agreement other than a 9-month period for the Secretary of the Interior to report to Congress on the progress of the agreement. To our knowledge, no agreement has been reached.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: A license was not issued to the existing licensee before the expiration date of the original license for two reasons. First, the Secretary of the Interior requested the Commission to recommend that the United States take over a portion of the project. The Commission's consideration of Interior's recommendations was not concluded until after the expiration date. In addition, the Pala Bands of Mission Indians filed on June 5, 1972, a competing application for a non-power license before the expiration date of the original license.

Date for Final Action on the Application: Mid 1991

STATUS OF RELICENSE APPLICATION

Project Name : Kaweah

Project No. : 298-000

Type of Application : Major

Name of Applicant : Southern California Edison Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : August 6, 1974

Filing Date : May 2, 1973
(Amended February 7, 1975)

Acceptance Date : May 19, 1977

Public Notice Issuance Date : July 13, 1977

Deadline for Comments and Interventions : September 19, 1977

Names of Intervenors : California Department of Fish and Game

Status of Application Processing: This application has been pending for many years due to jurisdiction issues as Forest Service lands occupied by the project at the time of issuance of the original license subsequently became National Park lands. Also, Congress was considering different pieces of legislation bearing on this case which resulted in 1974, 1978 and 1986 laws.1/

In 1982, the Department of the Interior (Interior) requested that the Commission defer action on this case until Interior files its report concerning the impacts of continued operation of this project on National Park lands pursuant to Public Law No. 93-522. The report has not been filed yet.

The applicant is currently obtaining the additional information requested on October 24, 1988, to bring the application up to present standards. The information is due on November 24, 1989. After receiving this information the Commission staff will prepare a NEPA document, provided the information to be filed is found acceptable.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The licensee filed an application for a minor part license. During this period the Commission was not issuing minor part licenses any longer, and

Project No. 298-000 continued

requested the licensee to file for a major license by February 1975. The application was filed only 1 year before the expiration date of the original license, in accordance with the Commission regulations in effect at the time. All of this and the jurisdiction issue prevented the Commission from acting on the application prior to the expiration date of the original license.

Date for Final Action on the Application: Late 1990

1/ Public Law No. 93-522, 88 Stat. 1660 Codified 16 U.S.C. 45a-1; Public Law No. 95-625, 92 Stat. 3482 Codified 16 U.S.C. 45a-1; Public Law No. 99-338, 100 Stat. 641 Codified 16 U.S.C. 45a-1

STATUS OF RELICENSE APPLICATION

Project Name : Walters

Project No. : 432-004

Type of Application : Major

Name of Applicant : Carolina Power and Light Co.

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : November 22, 1976

Filing Date : August 7, 1973

Acceptance Date : September 19, 1974

Public Notice Issuance Date : December 5, 1973

Deadline for Comments and Interventions : February 1, 1974

Names of Intervenors : ElectriCities of North Carolina EPIC, Inc., NC Consumers Power, Inc.

Status of Application Processing: The proceedings are presently being handled by an administrative law judge, who extended a stay on the processing to await a North Carolina District Court anti-trust ruling between this applicant and its competitor, NC Electric Membership Corp. Staff must await the ALJ decision before further processing.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The anti-trust issue and subsequent hearing delayed the processing of this application past the expiration date of the existing license.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Cushman Project

Project No. : 460-001

Type of Application : Major

Name of Applicant : City of Tacoma, WA

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : June 2, 1974

Filing Date : November 5, 1974

Acceptance Date : March 26, 1975

Public Notice Issuance Date : March 26, 1975

Deadline for Comments and Interventions : June 23, 1975

Names of Intervenors : U.S. Department of the Interior
Washington Departments of Ecology, Fisheries, and Game
Skokomish Tribe

Status of Application Processing: This project partially occupies National Park lands. The jurisdiction question, similar to the one for the Glines Canyon Project No. 588, about relicensing within a national park has not yet been resolved. Water quality certification was requested June 27, 1984, and issued April 30, 1985, but was appealed by the applicant. A revised certification was issued January 19, 1988. A July 22, 1988, additional information request asked that the application be brought up to present standards. The response to that request is due by June 29, 1990.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Licensee requested, and was granted, an extension of time to file the relicense application. The application was filed 5 months past the original license expiration date.

Date for Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Kentucky River L/D No. 7

Project No. : 539-000

Type of Application : Major

Name of Applicant : Kentucky Utilities Co.

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 30, 1978

Filing Date : July 16, 1973

Acceptance Date : November 7, 1974

Public Notice Issuance Date : November 21, 1974

Deadline for Comments and Interventions : January 17, 1975

Names of Intervenors : City of Frankfort, Kentucky

Status of Application Processing: This case has been held in abeyance because of the alleged anti-trust conduct of the applicant. The issues are similar to the Helms case, a lead case, and further action on P-539 will await the resolution of that case.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The anti-trust issue delayed the processing of this application past the expiration date of the existing license.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Skagit River Project

Project No. : 553-005

Type of Application : Major

Name of Applicant : City of Seattle, WA

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : October 27, 1977

Filing Date : September 29, 1977

Acceptance Date : December 20, 1978

Public Notice Issuance Date : January 8, 1979

Deadline for Comments and Interventions : March 9, 1979

Names of Intervenors : National Marine Fisheries Service
Washington Departments of
Fish and Game

Status of Application Processing: Processing was delayed until the spring of 1986 by the Skagit Downstream Flow Proceeding, which was instituted by the Commission in connection with its authorization of a change in the height of Ross Dam, and under which the Licensee conducted downstream flow studies for over 6 years in cooperation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Departments of Fish and Game, and certain Tribal Communities. Resulting environmental studies were filed June 10, 1988. Potential cumulative impacts of continuing project operation and maintenance will be analyzed in the Skagit Basin Cumulative Environmental Impact Statement.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Licensee was granted an extension of time to file the relicense application. The application was not filed until less than 1 month before the original license expiration date.

Date for Final Action on the Application: Mid 1991

STATUS OF RELICENSE APPLICATION

Project Name : Glines Canyon Project

Project No. : 588-000

Type of Application : Major

Name of Applicant : James River II, Incorporated

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : June 3, 1976

Filing Date : June 1, 1973

Acceptance Date : October 20, 1977

Public Notice Issuance Date : May 23, 1978

Deadline for Comments and Interventions : August 5, 1978

Names of Intervenors : U.S. Department of the Interior
National Marine Fisheries Service
Washington Departments of Game and Ecology
Point-No-Point Treaty Council
Lower Elwha Tribe
Seattle Audubon Society
Friends of the Earth
Olympic Park Associates
Sierra Club
Western Pulp and Paper Workers

Status of Application Processing: This application has been pending for many years because of dam safety and jurisdiction issues. The dam safety problem is currently being resolved and should be complete by December 1, 1989. The jurisdiction question, raised by the Department of the Interior about relicensing within a national park, has not yet been resolved.

Additional information was requested August 15, 1989; proposals for disposing of the excess material created by the dam removal alternative and an economic study of increasing generating capacity are due November 13, 1989; and data on the sediment that has accumulated in the reservoirs is due February 15, 1990. Environmental review, which will include the analysis of fishery restoration issues raised by the intervenors, will start in November 1989.

Project No. 588-000 continued

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: Although the relicense application was filed 3 years prior to the expiration date of the existing license, the application was found deficient and the correction of the deficiencies by the Licensee took over a year beyond the expiration date of the existing license to correct.

Date for Final Action on the Application: Mid 1992

STATUS OF RELICENSE APPLICATION

Project Name	: Olmstead
Project No.	: 596-000
Type of Application	: Major
Name of Applicant	: Utah Power and Light Company
Identity of Applicant	: Existing Licensee
Expiration Date of Existing License	: October 1, 1975
Filing Date	: April 7, 1975
Acceptance Date	: July 30, 1980
Public Notice Issuance Date	: August 7, 1980
Deadline for Comments and Interventions	: September 19, 1980
Names of Intervenors	: Utah Municipal Power Agency City of Bountiful, Utah Central Utah Conservancy District U.S. Department of Interior.

Status of Application Processing: This application competes with Projects No's. 4029 and 4040 filed by the Utah Municipal Power Agency et al., and the City of Bountiful, respectively. This project was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA.

The U.S. Department of the Interior, Bureau of Reclamation (Interior), is currently seeking to condemn the dam, flow line, and a large portion of the water rights for Project No. 596 in order to proceed with construction of the Bonneville Unit of its Central Utah Project, a reclamation project authorized by the Colorado River Storage Project Act (CRSPA), 16 U.S.C. §§ 620, *et seq*. In addition, the United States Attorney for the District of Idaho has submitted a letter arguing that CRSPA authorizes federal hydropower development at the site, thereby withdrawing the Commission's jurisdiction.

Commission staff is currently working with staff from Interior to resolve the jurisdictional issue. The Commission is also awaiting the outcome of the condemnation proceeding so that the Commission, if it finds that the site has not been reserved for federal development, can determine whether the portion of the

Project No. 596-000 continued

project that is not condemned contains sufficient project works to operate a non-federal project at the site.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license. This application was originally filed approximately 3 years prior to expiration of the existing license, and rejected. The application was refiled less than 6 months prior to expiration making it impossible to process the application prior to the expiration date of the existing license.

Date for Final Action on the Application: Early 1990

1/ See United States v. 80.39 Acres of Land, No. C-83-1179W (D. Utah June 4, 1984

STATUS OF RELICENSE APPLICATION

Project Name : Rio Blanco

Project No. : 663-001

Type of Application : Major

Name of Applicant : Puerto Rico Electric Power Authority

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : November 6, 1978

Filing Date : May 4, 1984

Acceptance Date : March 23, 1987

Public Notice Issuance Date: May 8, 1987

Deadline for Comments and Interventions : July 10, 1987

Names of Intervenors : None

Status of Application Processing: The applicant has been requested to do studies in consultation with the U.S. Forest Service to determine the appropriate minimum flow that needs to be released at this project. This information is due to be submitted by the end of November 1989. An environmental assessment will then be prepared.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The application was not filed until 6 years after the license expired. In 1978, a 1-year extension of time past the expiration date was granted for the applicant to file the application at the request of the U.S. Forest Service in order to conduct a resurvey of project lands. A further extension to file was granted when the project was damaged by hurricanes and the licensee needed a feasibility study on whether to repair the project.

Date For Final Action on the Application: Early 1990

STATUS OF RELICENSE APPLICATION

Project Name : Shawano Falls

Project No. : 710-000

Type of Application : Minor

Name of Applicant : Wisconsin Power and Light Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : July 19, 1977

Filing Date : November 8, 1976

Acceptance Date : April 22, 1977

Public Notice Issuance Date: March 21, 1978

Deadline for Comments and Interventions : May 22, 1978

Names of Intervenors : City of Shawano, Wisconsin
City of Bountiful, Utah et al.

Status of Application Processing: This application has been pending for many years due to numerous legal issues. It originally competed with Project No. 2865 filed by the City of Shawano, Wisconsin and was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. Both cases were delayed up until the passage of, and were specifically discussed in ECPA. The City of Shawano, Wisconsin subsequent to, and in accordance with Section 10 of ECPA, withdrew its application in exchange for compensation payments from Wisconsin Power and Light Company as provided by ECPA. The final processing of the application is commencing with the updating of the application because of its age. The additional information involves recreational facilities, threatened and endangered resources, water quality, project operation, fish entrainment and mortality, and river flow releases; and is due November 14, 1989 from the licensee.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations during the time when this application was filed required that relicense applications for minor projects be filed no later than one year prior to the expiration date of the existing license and no earlier than two years prior to the expiration date of the existing license. This application was filed approximately one year prior to expiration of the existing

Project No. 710-000 continued

license. This one-year time frame proved to be inadequate to allow a complete review and issuance of a license before the expiration date of the existing license.

Date For Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Phoenix

Project No. : 1061-000

Type of Application : Major

Name of Applicant : Pacific Gas and Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 25, 1980

Filing Date : December 26, 1979

Acceptance Date : January 25, 1980

Public Notice Issuance Date : September 11, 1980

Deadline for Comments and Interventions : November 25, 1980

Names of Intervenors : Tuolumne Regional Water District

Status of Application Processing: This application's processing was held up from 1980 until 1987 because of the controversy as to whether or not municipal preference should apply in relicensing cases. It competed with Project No. 4309 filed by the Tuolumne Regional Water District (District) and is one of the cases the ECPA specifically discussed. In January 1987, the District withdrew its application after reaching agreement with Pacific Gas and Electric Company on the amount of compensation as provided by ECPA.

Since that time the licensee has been providing additional information in order for us to complete our processing of the application. Currently Pacific Gas and Electric Company is preparing cultural resource information and revisions to the recreation plan. This information is due by March 10, 1990.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The application was filed only one year before the expiration of the first license in compliance with the regulations in effect at the time. This was insufficient time due to competition, and the municipal preference in relicensing issue.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name	: Buzzards Roost
Project No.	: 1267-000
Type of Application	: Major
Name of Applicant	: Greenwood County and Duke Power Co.
Identity of Applicant	: Existing licensee is Greenwood Co. (No decision on whether joint applicants will be considered existing licensee)
Expiration Date of Existing License	: February 10, 1985
Filing Date	: February 3, 1982
Acceptance Date	: December 30, 1987
Public Notice Issuance Date	: February 1, 1988
Deadline for Comments and Interventions	: April 1, 1988
Names of Intervenors	: None

Status of Application Processing: Processing of this application was delayed for many years because of legal issues related to hidden hybrids 1/ and the leasing of the dam and reservoir property rights to Duke Power Company. Duke Power Company has filed to be and is now a co-applicant for relicense. Additional information concerning water quality, recreation, fish mortality, and fishery habitat is needed and a request is being prepared. Previously filed information on these issues was insufficient.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The above legal issues were not resolved until mid 1987, when Duke Power Co. agreed to become a co-applicant, after the original license has expired.

Date For Final Action on the Application: Mid 1991

1/ Hidden hybrids is a term used to define a situation where an application is filed-by a municipal applicant, claiming municipal preference, but in reality, the municipality serves only as cover for a private entity who is a silent partner.

STATUS OF RELICENSE APPLICATION

Project Name	: Tule River Project
Project No.	: 1333-001
Type of Application	: Major
Name of Applicant	: Pacific Gas and Electric Company
Identity of Applicant	: Existing Licensee
Expiration Date of Existing License	: April 30, 1989
Filing Date	: February 26, 1986
Acceptance Date	: August 13, 1986
Public Notice Issuance Date	: November 14, 1986
Deadline for Comments and Interventions	: January 20, 1987
Names of Intervenors	: California Department of Fish and Game

Status of Application Processing: This project occupies lands administered by the U.S. Forest Service (FS) within the Sequoia National Forest. By letter dated June 22, 1988, the FS issued terms and conditions for this project pursuant to Section 4(e) of the Federal Power Act (FPA). Pacific Gas and Electric Company appealed the terms and conditions to the FS in August 1989. When the appeal is resolved staff will complete processing of the license application, including issuance of an environmental assessment.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license, and no earlier than 5 years prior to the expiration date of the existing license. Although this application was filed approximately 3 years prior to expiration of the existing license, the appeal of the FS terms and conditions has delayed the Commission from acting on the license application until after the expiration date of the existing license.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Crane Valley

Project No. : 1354-005

Type of Application : Major

Name of Applicant : Pacific Gas and Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : April 30, 1989

Filing Date : April 29, 1986

Acceptance Date : August 22, 1986

Public Notice Issuance Date : September 9, 1986

Deadline for Comments and Interventions : November 14, 1986

Names of Intervenors : Pine Resorts of California
North Fork Chamber of Commerce
Bass Lake Chamber of Commerce
Eastern Madera County Chamber of Commerce
California Save our Streams.

Status of Application Processing: Commission staff is currently reviewing all the information filed in preparation for starting work on an Environmental Assessment.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: Although the application was filed 3 years prior to the expiration date of the original license the time proved to be insufficient for resolving mitigation issues, and the collection of needed additional information.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Lee Vining Creek

Project No. : 1388-001

Type of Application : Major

Name of Applicant : Southern California Edison Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : November 30, 1986

Filing Date : December 1, 1981

Acceptance Date : September 1, 1982

Public Notice Issuance Date : October 14, 1982

Deadline for Comments and Interventions : January 8, 1983

Names of Intervenors : California Department of Fish and Game

Status of Application Processing: This application originally competed with Project No. 7263 filed by the City of Vernon, California (Vernon), and was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA. Vernon subsequent to, and in accordance with Section 10 of ECPA, withdrew its application in exchange for a compensation payment by Southern California Edison Company (SCE) as provided by ECPA. In accordance with the Commission's order determining compensation issued October 4, 1988, SCE paid Vernon the sum of $339,810 in consideration of Vernon's withdrawal of its competing license application.

This project is currently being reviewed along with four other license applications (P-1389, 1390, 3258, and 3272) as part of a cumulative environmental assessment (CEA) for projects located within the Mono Lake Basin, California. After staff completes the CEA in December of 1989, a site specific EA will be completed for this project.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the

Project No.1388-001 continued

existing license. Although this application was filed approximately 5 years prior to expiration of the existing license, the combination of competing license applications and the issue of municipal preference in relicensing delayed Commission action on the license application until after the expiration date of the existing license.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Rush Creek Project

Project No. : 1389-001

Type of Application : Major

Name of Applicant : Southern California Edison Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : November 30, 1986

Filing Date : December 1, 1981

Acceptance Date : May 21, 1982

Public Notice Issuance Date : June 8, 1982

Deadline for Comments and Interventions : August 16, 1982

Names of Intervenors : California Department of Fish and Game

Status of Application Processing: This application originally competed with Project No. 6930 filed by June Lake Public Utility District (June Lake), and was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA. June Lake subsequent to, and in accordance with Section 10 of ECPA, withdrew its application in exchange for a compensation payment by Southern California Edison Company (SCE) as provided by ECPA. In accordance with the Commission's order determining compensation issued April 21, 1988, SCE paid June Lake the sum of $300,000 in consideration of June Lake's withdrawal of its competing license application.

Also, this project is currently being reviewed along with four other license applications (P-1388, 1390, 3258, and 3272) as part of a cumulative environmental assessment (CEA) for projects located within the Mono Lake Basin, California. After staff completes the CEA in December of 1989, a site specific EA will be completed for this project.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the

Project No. 1389-001 continued

existing license. Although this application was filed approximately 5 years prior to expiration of the existing license, the combination of competing license applications and the issue of municipal preference in relicensing delayed Commission action on the license application until after the expiration date of the existing license.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Lundy Project

Project No. : 1390-001

Type of Application : Major

Name of Applicant : Southern California Edison Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : November 30, 1986

Filing Date : December 1, 1981

Acceptance Date : May 25, 1982

Public Notice Issuance Date : May 24, 1982

Deadline for Comments and Interventions : August 2, 1982

Names of Intervenors : Joseph M. Keating

Status of Application Processing: On May 1, 1985, the U.S. Forest Service (FS) filed terms and conditions pursuant to Section 4(e) of the Federal Power Act (FPA), stating that the FS is working with the applicant to identify the methodology to establish a minimum instream flow requirement. The FS also requested that a license not be issued until the instream flow studies are complete. On April 20, 1988, the FS filed preliminary terms and conditions pursuant to Section 4(e) of the FPA.

This project is currently being reviewed along with four other license applications (P-1388, 1389, 3258, and 3272) as part of the cumulative environmental assessment (CEA) for projects located within the Mono Lake Basin, California. After staff completes the CEA in December of 1989, a site specific EA will be completed for this project. The FS stated that the final terms and conditions will be filed after review of the Commission's CEA.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license. Although this application was filed approximately 5 years prior to expiration of the existing license, the FS's request to work with the applicant to establish

Project No. 1390-001 continued

minimum instream flow requirements delayed Commission action on the license application until after the expiration date of the existing license.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name	: Bishop Creek Water Power Project
Project No.	: 1394-004
Type of Application	: Major
Name of Applicant	: Southern California Edison Company
Identity of Applicant	: Existing Licensee
Expiration Date of Existing License	: December 31, 1986
Filing Date	: March 31, 1986
Acceptance Date	: October 14, 1986
Public Notice Issuance Date	: February 11, 1987
Deadline for Comments and Interventions	: March 23, 1987
Names of Intervenors	: California Trout, Incorporated

Status of Application Processing: Commission staff is currently preparing an environmental assessment which is scheduled for completion in December of 1989. Commission action on the application will follow shortly after.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The initial relicense application filed on December 1, 1981, and revised on July 21, 1983, was rejected on October 27, 1983. A second revised application filed on January 25, 1984, was rejected on June 29, 1984. The licensee was then given 30 days to file for approval a schedule for filing an acceptable application for a new license after correcting the listed deficiencies. An acceptable application was finally filed on March 31, 1986, only 9 months prior to the expiration of the original license, thus leaving insufficient time for processing and Commission action before the expiration date of the original license.

Date for Final Action on the Application: Early 1990

STATUS OF RELICENSE APPLICATION

Project Name : Narrows Project

Project No. : 1403-004

Type of Application : Major

Name of Applicant : Pacific Gas and Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : March 23, 1992

Filing Date : June 29, 1989

Acceptance Date : Not accepted yet.

Public Notice Issuance Date : Not noticed yet.

Deadline for Comments and Interventions : Not noticed yet.

Names of Intervenors : Not noticed yet.

Status of Application Processing: Staff has completed its initial review of the application and is awaiting filing of corrections to deficiencies, and additional information concerning minimum flows, and mitigation measures to reduce turbine mortality. This information is due in early 1990.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: Processing this application should be completed before the existing license expires.

Date for Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name	: Kingsley
Project No.	: 1417-001
Type of Application	: Major
Name of Applicant	: Central Nebraska Public Power and Irrigation
Identity of Applicant	: Existing Licensee
Expiration Date of Existing License	: July 29, 1987
Filing Date	: June 28, 1984
Acceptance Date	: Not accepted
Public Notice Issuance Date	: Not noticed
Deadline for Comments and Interventions	: N/A
Names of Intervenors	: N/A

Status of Application Processing: The processing of this application is awaiting applicant's response to a staff deficiency request of December 7, 1984, for proof of or request for a section 401 water quality certificate, and the revision of the fish, wildlife, and botanical resource plan. A Commission letter of January 27, 1986 found the application still deficient, but allowed the applicant until April, 1990 to respond. The due date was tied to a joint management environmental study for the Platte River Basin. One of the listed deficiencies was the failure to assess the project impact on Whooping Crane habitat which will be addressed after the study is completed. In a recent court opinion, Platt River Whooping Crane Critical Habitat Maintenance Trust v. FERC (D.C. Cir. No. 88-1425, May 19, 1989), the court held that the Commission should consider interim mitigation measures pending a final rule on relicensing. Attempts to resolve the interim measures issue are underway.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: This application was filed approximately three years prior to expiration of the existing license. This period would have normally been sufficient but for the fact that due to the intertwining of the staff deficiency request with a joint agency endangered species study on the Whooping Crane, the period of time provided the applicant to cure deficiencies was extended to April, 1990, beyond the expiration date of the license

Date For Final Action on the Application: Early 1991

STATUS OF RELICENSE APPLICATION

Project Name : Dry Spruce Bay

Project No. : 1432-004

Type of Application : Minor

Name of Applicant : Wards Cove Packing Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : October 26, 1988

Filing Date : June 22, 1989

Acceptance Date : Not accepted yet.

Public Notice Issuance Date : Not noticed yet.

Deadline for Comments and Interventions : Not noticed yet.

Names of Intervenors : Not noticed yet.

Status of Application Processing: The determination of application acceptance is scheduled for November 1989.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The first license application filed in late 1988 was rejected on December 22, 1988, approximately 2 months after the expiration date of the existing license. Another license application was filed on June 22, 1989.

Date for Final Action on the Application: Mid 1990

STATUS OF RELICENSE APPLICATION

Project Name : Pensacola

Project No. : 1494-002

Type of Application : Major

Name of Applicant : Grand River Dam Authority

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1988

Filing Date : December 23, 1985

Acceptance Date : February 19, 1987

Public Notice Issuance Date: April 6, 1987

Deadline for Comments and Interventions : May 26, 1987

Names of Intervenors : State of Oklahoma

Status of Application Processing: Environmental information (impacts on the tailwater fishery, impacts on turbine fish entrainment, reservoir water quality study and management recommendations, mitigation plan for wildlife and threatened and endangered species, and mitigation plan for recreational resources) is due to be filed on 6/30/90. Providing that the information is found to be acceptable, final processing of Project No. 1494 will commence at that time.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The application, as filed, did not conform to the consultation requirements in 18 CFR at §4.38. Studies necessary for the Commission to make an informed decision regarding the merits of the application had not been performed. Studies (see above) are continuing. At the request of the applicant, the period provided to supply additional information extended beyond the license expiration date.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Weber Project

Project No. : 1744-000

Type of Application : Major

Name of Applicant : Utah Power and Light Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : June 30, 1972

Filing Date : June 24, 1969

Acceptance Date : July 24, 1972

Public Notice Issuance Date : June 29, 1972

Deadline for Comments and Interventions : September 14, 1972

Names of Intervenors : City of Bountiful, UT

Status of Application Processing: This application has been pending for many years due to numerous legal issues. It originally competed with Project No. 2747 filed by the City of Bountiful, Utah, and was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. Both projects were specifically discussed in the ECPA. The City of Bountiful, subsequent to and in accordance with Section 10 of ECPA, withdrew its application in exchange for compensation payments by Utah Power and Light Company as provided by ECPA. A settlement agreement regarding the amount of this compensation was acted upon by Commission on October 25, 1989. Processing will now continue, but the application may require updating because of its age.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 1 year prior to the expiration date of the existing license and no earlier than 2 years prior to the expiration date of the existing license. This application was filed approximately 1 year prior to expiration of the existing license. This 1 year time frame proved to be inadequate to allow a complete review and issuance of a license before the expiration date of the existing license.

Date for Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Keystone Diversion Dam (Sutherland)

Project No. : 1835-013

Type of Application : Major

Name of Applicant : Nebraska Public Power District

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : June 30, 1987

Filing Date : June 28, 1984

Acceptance Date : Not accepted

Public Notice Issuance Date: Not noticed

Deadline for Comments and Interventions : N/A

Names of Intervenors : N/A

Status of Application Processing: The processing of this application is awaiting applicant's response to a staff deficiency request of December 7, 1984, for proof of or request for a section 401 water quality certificate, and the revision of the fish, wildlife, and botanical resource plan. Commission letter of January 27, 1986 finding the application still deficient, but allowing the applicant until April, 1990 to respond. The due date was tied to a joint management environmental study for the Platte River Basin. One of the listed deficiencies was the failure to assess the project impact on Whooping Crane habitat which will be addressed after the study is completed.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: This application was filed approximately three years prior to expiration of the existing license. This period would have normally been sufficient but for the fact that due to the intertwining of the staff deficiency with a joint agency endangered species study, on the Whooping Crane the period of time provided the applicant to cure deficiencies was extended to April, 1990, beyond the expiration date of the license.

Date For Final Action on the Application: Early 1991

STATUS OF RELICENSE APPLICATION

Project Name : Bond Falls

Project No. : 1864-005

Type of Application : Major

Name of Applicant : Upper Peninsula Power Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1988

Filing Date : December 24, 1987

Acceptance Date : August 8, 1988

Public Notice Issuance Date: September 7, 1988

Deadline for Comments and Interventions : December 30, 1988

Names of Intervenors : American Rivers, Inc. and American White Water Affiliation, Tom and Billie Banse, Tom and Ann Colgin, Roy Canghran, William Kananen, Randy Myhran, Upper Peninsula Sports Fisherman's Association, Upper Peninsula Sportsmens' Alliance, and State of Wisconsin Department of Natural Resources.

Status of Application Processing: An application for new license was filed on December 26, 1985. On January 29, 1987, the application was rejected because necessary revisions were not filed. Licensee was directed to file a revised application by December 31, 1987; the requirement to file a new license application prior to 3 years before the license expiration date was waived. Additional information is still needed as a result of issues raised by comments filed pursuant to the public notice concerning water quality, fisheries and recreation. A request is being prepared.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations during the time when this application was filed required that relicense applications for major projects be filed no later that three years prior to the expiration date of the existing license and no earlier that five years prior to the expiration date of the existing license. This application was first filed approximately three years prior to expiration of the existing license; this would have normally been sufficient to complete processing. Because the initial filing was rejected,

Project No. 1864-005 continued

and the revised application was not filed until 1 year prior to expiration, there was not adequate time to allow a complete review and issuance of a license before the expiration date of the existing license.

Date For Final Action on the Application: Late 1991

STATUS OF RELICENSE APPLICATION

Project Name : DuBay

Project No. : 1953-003

Type of Application : Major

Name of Applicant : Consolidated Water Power Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : June 30, 1991

Filing Date : June 29, 1989

Acceptance Date : Not accepted

Public Notice Issuance Date: Not noticed

Deadline for Comments and Interventions : N/A

Names of Intervenors : None

Status of Application Processing: The application has been determined acceptable and public notice of the application will be issued. The acceptance letter is being prepared.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Rock Creek-Cresta

Project No. : 1962-000

Type of Application : Major

Name of Applicant : Pacific Gas and Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : September 30, 1982

Filing Date : September 28, 1979
(Amended in 1980, 1981 and 1985)

Acceptance Date : December 15, 1987

Public Notice Issuance Date : December 19, 1987

Deadline for Comments and Interventions : February 12, 1988

Names of Intervenors : Joseph A. McKinley
Sacramento Municipal Utility District
Northern California Power Agency
The Cities of Anaheim, Azusa, Banning, Colton and Riverside, California
California Trout, Incorporated
California Department of Fish & Game

Status of Application Processing: This application originally competed with Project No. 3223 filed by Sacramento Municipal Utility District (SMUD), and was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA. SMUD, subsequent to and in accordance with Section 10 of ECPA, withdrew its application in return for compensation to be paid by Pacific Gas and Electric Company. However, the parties could not agree on an appropriate amount of compensation. Therefore, the Commission must issue an order resolving the matter. Since Section 10 of ECPA requires that any compensation order shall be included in any new license issued for the project, the Commission cannot issue a new license until the compensation issue is resolved.

On August 3, 1989, the Commission issued an order asking for more information on various compensation factors (48 FERC ¶ 1,158

1989). Both parties requested rehearing on the order, which is pending before the Commission. Commission staff is processing the rehearing requests and expects to have an order on rehearing ready for Commission consideration by late 1989. Subsequent to Commission action on the compensation issue, final processing will continue.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license. Although this application was filed approximately 3 years prior to expiration of the existing license, the combination of the competing license application, and the municipal preference issue prevented the Commission from acting on the license application until after the expiration date of the existing license.

Date for Final Action on the Application: Mid 1991

STATUS OF RELICENSE APPLICATION

Project Name : Haas-Kings

Project No. : 1988-007

Type of Application : Major

Name of Applicant : Pacific Gas and Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : March 31, 1985

Filing Date : March 5, 1985 (First filed in March of 1982, then rejected in June of 1984.)

Acceptance Date : April 30, 1987

Public Notice Issuance Date : May 23, 1987

Deadline for Comments and Interventions : July 23, 1987

Names of Intervenors :
- Sacramento Municipal Utility District
- Northern California Power Agency
- The cities of Anaheim, Azusa, Banning, Colton and Riverside, California
- California State Water Resources Control Board
- California Department of Fish and Game
- Kings River Water Association
- Kings River Conservation District
- Sierra Association for the Environment
- Sierra Club (Tehipite Chapter)

Status of Application Processing: This application originally competed with Project No. 6729 filed by Sacramento Municipal Utility District (SMUD), and was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA. SMUD, subsequent to and in accordance with Section 10 of ECPA, withdrew its application in return for compensation to be paid by Pacific Gas and Electric Company. However, the parties could not agree on an appropriate amount of compensation. Therefore, the Commission must issue an order resolving the matter. Since Section 10 of ECPA requires

Project No. 1988-007 continued

that any compensation order shall be included in any new license issued for the project, the Commission cannot issue a new license until the compensation issue is resolved.

On August 3, 1989, the Commission issued an order asking for more information on various compensation factors (48 FERC ¶ 61,158 1989). Both parties requested rehearing on the order, which is pending before the Commission. Commission staff is processing the rehearing requests and expects to have an order on rehearing ready for Commission consideration by late 1989. Subsequent to the Commission action on the compensation issue, final processing will continue.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time this application was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license. This application was originally filed approximately 3 years prior to expiration of the existing license, however, it was subsequently rejected. The application was refiled less than 1 month prior to expiration making it impossible to process the application prior to the expiration date of the existing license.

Date for Final Action on the Application: Mid 1991

STATUS OF RELICENSE APPLICATION

Project Name : Lamoille River

Project No. : 2205-006

Type of Application : Major

Name of Applicant : Central Vermont Public Service Corporation

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1987

Filing Date : May 27, 1987

Acceptance Date : June 7, 1988

Public Notice Issuance Date: September 7, 1988

Deadline for Comments and Interventions : November 14, 1988

Names of Intervenors : Vermont Agency of Natural Resources, American Rivers, Inc.

Status of Application Processing: The applicant has been requested to provide additional information, which is due October 1990, concerning aesthetic and minimum flow issues. This information is necessary for the preparation of an environmental assessment.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The licensee originally filed an unacceptable application which was rejected for failure to correct deficiencies. The current application was filed only 6 months before expiration of the existing license. That time frame was inadequate to allow a complete review and issuance of a license before license expiration.

Date For Final Action on the Application: Early 1991

STATUS OF RELICENSE APPLICATION

Project Name : Cascade

Project No. : 2327-002

Type of Application : Major

Name of Applicant : James River/New Hampshire Electric,Inc.

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1993

Filing Date : February 1, 1989

Acceptance Date : April 10, 1989

Public Notice Issuance Date : April 10, 1989

Deadline for Comments and Interventions : June 6, 1989

Names of Intervenors : Cascade Flats Neighborhood Org.,
Town of Gorham, NH

Status of Application Processing: The staff has obtained all information necessary to prepare an environmental assessment for the project. However, further processing of this application will be delayed until December 31, 1991, the deadline pursuant to ECPA of when all competing license applications must be filed.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: 1993

STATUS OF RELICENSE APPLICATION

Project Name : Squa Pan Dam

Project No. : 2368-001

Type of Application : Minor

Name of Applicant : Maine Public Service Co.

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1990

Filing Date : December 28, 1988

Acceptance Date : July 31, 1989

Public Notice Issuance Date: August 8, 1989

Deadline for Comments and Interventions : October 12, 1989

Names of Intervenors : U.S. Dept. of the Interior,
Maine State Planning Office

Status of Application Processing: The processing of this application is awaiting the applicant's response to additional information requested by staff letter of March 13, 1989. The additional information requires discussion of: major impact on terrestrial resources at the project, mitigative measures for impacts on fisheries resources, water quality analysis, estimate of existing and potential recreation use, and minimum and maximum flow analysis; and is due March 13, 1990.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Gilman

Project No. : 2392-004

Type of Application : Major

Name of Applicant : Georgia-Pacific Corp.

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1990

Filing Date : December 27, 1988

Acceptance Date : February 21, 1989

Public Notice Issuance Date: March 1, 1989

Deadline for Comments and Interventions : May 5, 1989

Names of Intervenors : None

Status of Application Processing: In response to an additional information request dated February 21, 1989, the applicant filed on September 19, 1989, information concerning water quality and recreation. The adequacy of that filing is currently under review. If the information is adequate, then an environmental assessment will be prepared.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: Early 1990

STATUS OF RELICENSE APPLICATION

Project Name : Milford

Project No. : 2534-005

Type of Application : Major

Name of Applicant : Bangor Hydro Electric Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1990

Filing Date : December 29, 1988

Acceptance Date : March 31, 1989

Public Notice Issuance Date: April 10, 1989

Deadline for Comments and Interventions : June 14, 1989

Names of Intervenors : U.S. Department of Interior,
Penobscot Indian Nation

Status of Application Processing: The applicant was requested to provide additional information on fisheries, water quality, etc. Most of this information has been filed, but the applicant has recently requested a 2-year extension to provide a minimum flow study. This request is under review.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: If the above extension is granted, a license will not be issued prior to license expiration.

Date For Final Action on the Application: Late 1991

STATUS OF RELICENSE APPLICATION

Project Name : Saxon Falls

Project No. : 2610-002

Type of Application : Minor

Name of Applicant : Northern States Power Company

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : December 31, 1989

Filing Date : December 16, 1988

Acceptance Date : March 3, 1989

Public Notice Issuance Date: March 10, 1989

Deadline for Comments and Interventions : May 12, 1989

Names of Intervenors : None

Status of Application Processing: An environmental assessment was issued for this project on October 23, 1989. Final review of the application concerning dam safety and related analysis is in progress.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: December 1989

STATUS OF RELICENSE APPLICATION

Project Name : Walters

Project No.: : 2748-000

Type of Application : Major

Name of Applicant : NC Electric Membership Corp., et. al.

Identity of Applicant : Competing applicant

Expiration Date of Existing License : November 22, 1976

Filing Date : August 20, 1974

Acceptance Date : June 25, 1980

Public Notice Issuance Date : December 1, 1981

Deadline for Comments and Interventions : January 15, 1982

Names of Intervenors : None

Status of Application Processing: The proceedings are presently being handled by an administrative law judge, who extended a stay on the processing to await a North Carolina District Court anti-trust ruling between this applicant and its competitor, Carolina Power and Light Co. Staff must await the ALJ decision before further processing.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The anti-trust issue and subsequent hearing delayed the processing of this application past the expiration date of the existing license.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Olmstead

Project No. : 4029-000

Type of Application : Major

Name of Applicant : Utah Municipal Power Agency et. al.

Identity of Applicant : Competitor

Expiration Date of Existing License : October 1, 1975

Filing Date : January 19, 1981

Acceptance Date : March 20, 1981

Public Notice Issuance Date : March 20, 1981

Deadline for Comments and Interventions : April 22, 1981

Names of Intervenors : Utah Power & Light Company
City of Bountiful, Utah
Central Utah Conservancy District
U.S. Department of Interior.

Status of Application Processing: This application competes with Projects No's. 596 (existing license) and 4040 filed by Utah Power & Light Company, and the City of Bountiful, respectively. Project No.596 was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA.

The U.S. Department of the Interior, Bureau of Reclamation (Interior), is currently seeking to condemn the dam, flow line, and a large portion of the water rights for Project No. 596 in order to proceed with construction of the Bonneville Unit of its Central Utah Project, a reclamation project authorized by the Colorado River Storage Project Act (CRSPA), 16 U.S.C. §§ 620, *et seq*. In addition, the United States Attorney for the District of Idaho has submitted a letter arguing that CRSPA authorizes federal hydropower development at the site, thereby withdrawing the Commission's jurisdiction.

Commission staff is currently working with staff from Interior to resolve the jurisdictional issue. The Commission is also awaiting the outcome of the condemnation proceeding so that the Commission, if it finds that the site has not been reserved for federal development, can determine whether the portion of the

Project No. 4029-000 continued

project that is not condemned contains sufficient project works to operate a non-federal project at the site.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time when the application for Project No. 596 was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license. The application for Project No. 596 was originally filed approximately 3 years prior to expiration of the existing license, and rejected. The application was refiled less than 6 months prior to expiration making it impossible to process the application prior to the expiration date of the existing license.

Date for Final Action on the Application: Early 1990

1/ See United States v. 80.39 Acres of Land, No. C-83-1179W (D. Utah June 4, 1984

STATUS OF RELICENSE APPLICATION

Project Name : Olmstead

Project No. : 4040-000

Type of Application : Major

Name of Applicant : City of Bountiful, UT

Identity of Applicant : Competitor

Expiration Date of Existing License : October 1, 1975

Filing Date : January 19, 1981

Acceptance Date : March 23, 1981

Public Notice Issuance Date : March 23, 1981

Deadline for Comments and Interventions : April 14, 1981

Names of Intervenors : Utah Municipal Power Agency
Utah Power & Light Company
Central Utah Conservancy District
U.S. Department of Interior.

Status of Application Processing: This application competes with Projects No's. 4029 and 596 (existing license) filed by the Utah Municipal Power Agency Et al, and the Utah Power and Light Co., respectively. Project No. 596 was one of the cases that triggered the controversy as to whether or not municipal preference should apply in relicensing cases. This project was specifically mentioned in Section 10 of ECPA.

The U.S. Department of the Interior, Bureau of Reclamation (Interior), is currently seeking to condemn the dam, flow line, and a large portion of the water rights for Project No. 596 in order to proceed with construction of the Bonneville Unit of its Central Utah Project, a reclamation project authorized by the Colorado River Storage Project Act (CRSPA), 16 U.S.C. §§ 620, *et seq*. In addition, the United States Attorney for the District of Idaho has submitted a letter arguing that CRSPA authorizes federal hydropower development at the site, thereby withdrawing the Commission's jurisdiction.

Commission staff is currently working with staff from Interior to resolve the jurisdictional issue. The Commission is also awaiting the outcome of the condemnation proceeding so that the Commission, if it finds that the site has not been reserved for federal development, can determine whether the portion of the

Project No. 4040-000 continued

project that is not condemned contains sufficient project works to operate a non-federal project at the site.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission's regulations at the time when the application for Project No. 596 was filed required that relicense applications for major projects be filed no later than 3 years prior to the expiration date of the existing license and no earlier than 5 years prior to the expiration date of the existing license. The application for Project No. 596 was originally filed approximately 3 years prior to expiration of the existing license, and rejected. The application was refiled less than 6 months prior to expiration making it impossible to process the application prior to the expiration date of the existing license.

Date for Final Action on the Application: Early 1990

[1] See United States v. 80.39 Acres of Land, No. C-83-1179W (D. Utah June 4, 1984

STATUS OF RELICENSE APPLICATION

Project Name	: Varick Dam
Project No.	: 4685-002
Type of Application	: Major
Name of Applicant	: Long Lake Energy Corporation (LLEC)
Identity of Applicant	: Competing applicant
Expiration Date of Existing License	: December 31, 1993
Filing Date	: September 16, 1987
Acceptance Date	: Not accepted
Public Notice Issuance Date	: Not noticed
Deadline for Comments and Interventions	: N/A
Names of Intervenors	: Niagara Mohawk Power Corporation (existing licensee)

Status of Application Processing: This application was filed in anticipation of and in competition with Niagara Mohawk Power Corp.'s (NMPC) relicense application, docketed as P-5984. Since the filing of the application for P-4685, this case has been delayed by questions of limiting access to existing project lands and the state denial of water quality certification. At this point, LLEC has filed corrected deficiencies to its application and staff is awaiting the filing of additional information related to dam safety, fisheries, and water quality, which is due in March 1990. If the information is then found adequate, no further processing will occur until, the filing of NMPC's relicense application due in December 1991.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: Late 1993

STATUS OF RELICENSE APPLICATION

Project Name : Hudson Falls

Project No. : 5276-000

Type of Application : Major

Name of Applicant : Niagara Mohawk Power Corporation

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : May 18, 1984

Filing Date : August 21, 1981

Acceptance Date : December 18, 1985

Public Notice Issuance Date: January 6, 1986

Deadline for Comments and Interventions : March 7, 1986

Names of Intervenors : Bakers Falls Corporation, New York State Department of Environmental Conservation

Status of Application Processing: This application competes with Project No. 9705. The staff has received all necessary information to evaluate the projects. An environmental assessment for both applications is under preparation and is scheduled to be completed in November, 1989.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission issued an order on May 18, 1984, accelerating the termination date of the existing license. This application was filed with conditions related to the Commission's granting of an accelerated expiration date for the license and therefore, the application could not be accepted until the conditions were removed and the Commission approved the accelerated expiration of the license.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : South Glens Falls

Project No. : 5461-000

Type of Application : Major

Name of Applicant : Niagara Mohawk Power Corporation

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : May 18, 1984

Filing Date : October 8, 1981

Acceptance Date : December 18, 1985

Public Notice Issuance Date: January 18, 1986

Deadline for Comments and Interventions : March 7, 1986

Names of Intervenors : Occidental Chemical Corporation, South Glens Falls Corporation

Status of Application Processing: An environmental assessment was prepared on January 28, 1988, for both Projects Nos. 9703 and 5461. However, issues concerning which project proposes the best comprehensive development of the site and each proposal's effect on a licensed Project No. 2385, need to be resolved before an order can be issued. This case is scheduled for Commission consideration in December, 1989

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission issued an order accelerating termination date for the existing license on May 18, 1984. This application was filed with conditions related to the Commission's granting of an accelerated expiration date for the license, and therefore, the application could not be accepted until the conditions were removed and the Commission approved the accelerated expiration of the license.

Date For Final Action on the Application: Early 1990

STATUS OF RELICENSE APPLICATION

Project Name : Mechanicville

Project No. : 6032-000

Type of Application : Major

Name of Applicant : Niagara Mohawk Power Corporation & Fourth Branch Associates

Identity of Applicant : Existing Licensee

Expiration Date of Existing License : May 18, 1984

Filing Date : January 23, 1982

Acceptance Date : January 28, 1986

Public Notice Issuance Date: February 28, 1986

Deadline for Comments and Interventions : April 28, 1986

Names of Intervenors : Mechanicville Corporation

Status of Application Processing: This application competes with Project No. 9706. This case has been delayed by procedural issues related to material amendments. Additional information related to environmental resources and to comprehensive development of the site has been filed by both applicants in August of 1989. This information is under staff review and if adequate, an environmental assessment for both applications will be prepared.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission issued an order on May 18, 1984, accelerating the termination date of the existing license. This application was filed with conditions related to the Commission's granting of an accelerated expiration date for the license and therefore, the application could not be accepted until the conditions were removed and the Commission approved the accelerated expiration of the license.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : South Glens Falls

Project No. : 9703-000

Type of Application : Major

Name of Applicant : South Glens Falls Corporation

Identity of Applicant : Competing applicant

Expiration Date of Existing License : May 18, 1984

Filing Date : December 23, 1985

Acceptance Date : May 27, 1986

Public Notice Issuance Date: June 6, 1986

Deadline for Comments and Interventions : July 21, 1986

Names of Intervenors : Niagara Mohawk Power Corporation (existing licensee)

Status of Application Processing: An environmental assessment was prepared on January 28, 1988, for both Projects Nos. 9703 and 5461. However, issues concerning which project proposes the best comprehensive development of the site and each proposal's effect on a licensed Project No. 2385, need to be resolved before an order can be issued. This case is scheduled for Commission consideration in December, 1989

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission issued an order accelerating termination date for the existing license on May 18, 1984. This application was filed after the expiration of the initial license.

Date For Final Action on the Application: Early 1990

STATUS OF RELICENSE APPLICATION

Project Name : Hudson Falls

Project No. : 9705-000

Type of Application : Major

Name of Applicant : Bakers Falls Corporation

Identity of Applicant : Competing applicant

Expiration Date of Existing License : May 18, 1984

Filing Date : December 23, 1985

Acceptance Date : July 8, 1987

Public Notice Issuance Date: July 15, 1987

Deadline for Comments and Interventions : October 28, 1987

Names of Intervenors : Niagara Mohawk Power Corporation,
Glens Falls Portland Cement Company,
New York State Department of Environmental Conservation

Status of Application Processing: This application competes with Project No. 5276. The staff has received all necessary information to evaluate the projects. An environmental assessment for both applications is under preparation and is scheduled to be completed in November, 1989.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission issued an order accelerating the termination date for the existing license on May 18, 1984. This application was filed after that date.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name	: Mechanicville
Project No.	: 9706-000
Type of Application	: Major
Name of Applicant	: Mechanicville Corporation
Identity of Applicant	: Competing applicant
Expiration Date of Existing License	: May 18, 1984
Filing Date	: December 23, 1985
Acceptance Date	: May 29, 1986
Public Notice Issuance Date	: June 10, 1986
Deadline for Comments and Interventions	: July 21, 1986
Names of Intervenors	: Niagara Mohawk Power Corporation, Fourth Branch Associates

Status of Application Processing: This application competes with Project No. 6032. This case has been delayed by procedural issues related to material amendments. Additional information related to environmental resources and to comprehensive development of the site has been filed by both applicants in August of 1989. This information is under staff review and if adequate, an environmental assessment for both applications will be prepared.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: The Commission issued an order on May 18, 1984, accelerating the termination date of the existing license. This application was filed after that date.

Date For Final Action on the Application: Late 1990

STATUS OF RELICENSE APPLICATION

Project Name : Alpine

Project No. : 9713-001

Type of Application : Minor

Name of Applicant : Alpine Hydroelectric, Co.

Identity of Applicant : Competing applicant

Expiration Date of Existing License : December 31, 1993

Filing Date : July 21, 1988

Acceptance Date : January 19, 1989

Public Notice Issuance Date : January 30, 1989

Deadline for Comments and Interventions : April 6, 1989

Names of Intervenors : James River Paper Co., James River-NH Electric, Inc.

Status of Application Processing: The staff has obtained all information necessary to prepare an environmental assessment for the project. However, further processing of this application will be delayed until December 31, 1991, the deadline pursuant to ECPA of when all competing license applications must be filed.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: Late 1993

STATUS OF RELICENSE APPLICATION

Project Name	: Minetto Dam
Project No.	: 10470-000
Type of Application	: Major
Name of Applicant	: Long Lake Energy Corporation (LLEC)
Identity of Applicant	: Competing applicant
Expiration Date of Existing License	: December 31, 1993
Filing Date	: September 8, 1987
Acceptance Date	: Not accepted
Public Notice Issuance Date	: Not noticed
Deadline for Comments and Interventions	: N/A
Names of Intervenors	: Niagara Mohawk Power Corporation (existing licensee)

Status of Application Processing: This application was filed in anticipation of and in competition with Niagara Mohawk Power Corp.'s (NMPC) relicense application, docketed as P-5984. Since the filing of the application for this case has been delayed by questions of limiting access to existing project lands and the state denial of water quality certification. At this point, LLEC has filed corrected deficiencies to its application and staff is awaiting the filing of additional information related to dam safety, water quality, and fisheries, which is due in March 1990. If the information is then found adequate, no further processing will occur until the filing of NMPC's relicense application due in December 1991.

Explanation of Why Relicense Application Could Not Be Processed Prior to Expiration of the Existing License: N/A

Date For Final Action on the Application: Late 1993

Question 3: The witness for the National Hydropower Association raised two general concerns regarding the licensing/relicensing process at the Commission which I will summarize as: (1) The numerous opportunities for recommendation and comment from environmental resource agencies make the FERC process "one not of evaluating competing resource interests, but of responding to agency comment"; and (2) unresolved jurisdictional conflicts between resource agencies and permitting agencies and the FERC. The witness for American Rivers urged that the Commission "create a process which brings all of the issues to the table early on, and that it deal with them" (including issues raised by the public). Both witnesses appear to be asking FERC to rationalize the licensing process through a vigorous assertion of its public interest authority. Please comment on how the FERC will address these concerns in its relicensing regulations or elsewhere.

Answer: The witness for the National Hydropower Association (NHA) identified the various statutory and regulatory opportunities for environmental resource agencies to recommend or require mitigative conditions with regard to hydroelectric projects. Some of the opportunities are partially or totally beyond the Commission's regulatory ambit. An applicant's request for water quality certification pursuant to Section 401(a)(1) of the Clean Water Act must be granted or waived by a state certifying agency before the Commission can grant a license application. A granted certification becomes, by law, a condition of the license. The Corps of Engineers acts on requests for dredge and fill permits pursuant to Section 404 of the Clean Water Act after a Commission license has been issued for a project. Water rights permits are issued by states; a Commission license gives the licensee five years to obtain all necessary water and other property rights.

Where a project would occupy a federal reservation, the administering land agency generally incorporates, through its mandatory conditioning authority pursuant to Section 4(e) of the Federal Power Act, the requirement that the licensee obtain a special-use permit pursuant to the Federal Land Management and Policy Act (FLPMA). Where the project would occupy public land that is not a reservation but that is administered by the Department of Agriculture or the Department of the Interior, a special-use permit under FLPMA is also generally required by these agencies. At least with respect to the Department of Agriculture (Forest Service), its Section 4(e) conditions generally state that, in the case of conflict between the Commission license and the special-use permit, the special-use permit shall prevail on matters which the Forest Service deems to affect National Forest System resources.

The jurisdictional conflict which the NHA witness describes in her example is, where the various permits and certifications imposed on a hydroelectric project prescribe differing minimum flows, which minimum flow governs? This is a question which may ultimately be determined by the courts. Where conditions imposed by other agencies are mandatory under the applicable laws, the Commission's choice is to issue the license as so conditioned or not to issue the license. This is what the Supreme Court concluded, with regard to mandatory Section 4(e) conditions, in Escondido Mutual Water Co. v. La Jolla Band, 466 U.S. 765, 778 n. 21. If a mandatory condition imposed by another agency "will unduly undermine the Commission's licensing judgment," that is a determination for the court of appeals, not the Commission, to make. Id. at 776 n. 16.

The Commission will in the near future issue a notice of proposed rulemaking, the focus of which will be to create a more defined, predictable structure and timetable for all licensing proceedings. Among other things, the proposed rulemaking will seek to clarify the requirements of Section 10(j) of the Federal Power Act; organize the relationship of the administrative processes under Section 10(j), the Fish and Wildlife Coordination Act, and the National Environmental Policy Act; and clarify the role of other governmental agencies, Indian tribes, citizen groups, and members of the public in the hydropower licensing and exemption processes. One of the goals of this effort is to obtain, at appropriate points early in the proceeding, the data, recommendations, and mandatory agency license conditions that form the basis for the Commission's decisionmaking process.

Question 4(a): **The issue of minimum flow requirements was cited as the most significant source of disagreement between the FERC and resource agencies by Commissioner Trabandt. Another witness provided an example of a project subject to four inconsistent minimum flow requirements.**

(a) Is there not a commonly accepted methodology for determining in-stream flow requirements.

Answer: There is no single commonly accepted in-instream flow methodology for determining in-stream flow requirements at hydroelectric projects throughout the U.S. The Instream Flow Incremental Methodology (IFIM), developed by the U.S. Fish and Wildlife Service, is the most widely applied methodology. Its use in the east and southeast, however, has produced variable results. Other commonly used methodologies include the Tennant Method in the West and the Aquatic Base Flow in New England. No one methodology may be applicable to every stream in the U.S. because of the wide stream diversity that results from geology, channel and drainage morphology and the diversity of aquatic life forms.

Question 4(b): If no, is this an area where further research is needed?

Answer: While further generic reseach would be useful, we believe that there is sufficient information available for Commission staff to carry out its responsibilities for informed environmental analysis in specific proceedings.

Question 4(c): Would a federally sponsored program be appropriate?

Answer: As indicated above in response to question 4(b), Commission staff believes that there is sufficient information available regarding the various methodologies and their relative merits for the Commission to render informed decisions. Staff continues to solicit the expertise of other federal and state agencies in the context of specific cases.

Question 4(d): What other suggestions do you have to prevent conflict in this area?

Answer: Better data analysis and a mutually acceptable interpretation of results could be achieved by continued cooperation among the Commision staff, the project proponent, and resource agency staff. Staff is committed to such cooperation in the individual cases under consideration.

QUESTIONS FOR THE RECORD FROM SENATOR WIRTH

Question 1: Where does the Commission stand on rehearing portions of the final rule on Hydro-relicensing? Do you envision major changes in the rule?

Answer: An order addressing the issues raised in the requests for rehearing of the final rule for Hydroelectric Relicensing Regulations Under the Federal Power Act was scheduled for consideration at the Commission's October 25, 1989 agenda. However, the order was struck from the agenda in order to provide the Commission with additional time to consider the issues raised. It is anticipated that the Commission will issue an order on rehearing in this proceeding in the very near future. Since the rehearing requests are pending before the Commission, it would be inappropriate to comment on the issues raised therein or speculate on potential changes to the final rule.

Question 2: When will you take up the 10J Notice of Proposed Rulemaking? What will be the schedule for a final 10J rule?

Answer: The notice of proposed rulemaking covering Section 10(j) of the Federal Power Act and other matters pertinent to the Commission's hydropower proceedings was scheduled for consideration at the Commission's October 25, 1989 agenda. The notice was struck from the agenda in order to provide the Commission with additional time to consider the issues raised. The notice is expected to be taken up by the Commission before the end of this year. The schedule for a final rule on these matters will depend in part on the extent and nature of the comments received on the notice of proposed rulemaking. The rulemaking is a priority for the hydropower program; therefore, it is expected that the final rule will be drafted as soon as is practicable.

Question 3: Earlier this year you wrote Chairman Dingell that the Commission intended to maintain its role as the final decision maker with respect to recommendations from state and federal fish & wildlife agencies concerning hydro projects subject to FERC licenses. You stated that this was the Commission's reading of the Electric Consumers Protection Act (ECPA) and you cited portions of that Act's legislative history. There is nothing in your 10J NOPR which is at variance with that position, is there? What do you think this 10J NOPR will accomplish?

Answer: By letter dated January 18, 1989, the Commission responded to questions by Congressman John D. Dingell, Chairman of the Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, U.S. House of Representatives, concerning the implementation of Section 10(j) of the Federal Power Act, which governs dispute resolution on recommendations submitted by fish and wildlife agencies on hydropower projects. The Commission stated that it has tried to develop a practical, workable, efficient approach to the Section 10(j) process, but also noted that its procedures were open to review, adjustment, and improvement. The Commission therefore stated that, in order to provide a comprehensive view of the Section 10(j) process, and to give all interested parties an opportunity to comment on the procedures before they are codified, it was directing the Commission staff to draft a notice of proposed rulemaking.

Question 4: As a general matter, how does the Commission propose to limit the dilatory tactics of intervenors under the current licensing and relicensing procedure which we have heard about this morning? How does the Commission propose to get a handle on the escalating costs of licensing and relicensing which this morning's testimony has brought out?

Answer: In its notice of proposed rulemaking, the Commission will seek to create a defined structure for licensing proceedings, under which an applicant can know at an early stage in the proceeding what information it will be required to collect and submit, and to what types of conditions its hydropower proposal may be subject. While the costs of licensing and relicensing are to a great degree the product of statutory and regulatory requirements, the Commission expects that increasing the certainty of the administrative timetable should assist in holding down these processing costs.

QUESTIONS FOR THE RECORD FROM SENATOR CONRAD

Question 1: Both the National Marine Fisheries and U.S. Fish and Wildlife Service stated that they would not be "second guessed" by FERC with respect to their technical expertise. Do you agree with their position?

Answer: The question cannot be answered without reference to the statutory scheme. Section 10(j) of the Federal Power Act (FPA) provides that, whenever the Commission believes that a fish and wildlife agency's recommended license condition may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, the Commission and the agencies shall attempt to resolve any such inconsistency, "giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies." If, after such attempt, the Commission does not adopt a fish and wildlife agency's recommendation, the Commission shall explain how adoption of the recommendation would be inconsistent with the purposes and requirements of applicable law, and how the license conditions selected by the Commission will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife. The judicial standard of review of the Commission's findings is "the statutory language and the arbitrary and capricious standard." See the Joint Explanatory Statement of the Committee of Conference, H.R. Rep. No. 99-934, 99th Cong., 2nd Sess. 23 (1986) (Conference Report).

In an October 21, 1988, letter to Chairman Hesse, Congressman John D. Dingell, Chairman of the Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, U.S. House of Representatives, asserted that in a particular proceeding the Commission staff had improperly substituted its own analysis for that of the fish and wildlife agencies, thus failing to give "due weight" to the expertise of these agencies. In its reply dated January 13, 1989, the Commission stated:

> [W]e believe it would be incorrect to state that the Commission should not undertake its own independent analysis of recommendations to protect, mitigate damage to, and enhance fish and wildlife resources that are affected by a proposed project. Indeed, in our view, such analysis is required by Section 10(a)(1) of the FPA, the National Environmental Policy Act (NEPA), Section 10(j)(2)(B) of the FPA, and Section 313(b) of the FPA.
>
> Section 10(a)(1) requires that the project as licensed be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway for beneficial public purposes. This provision requires the Commission to explore all issues relevant to the public

interest, including fish and wildlife. Udall v. Federal Power Commission, 387 U.S. 428, 450 (1967). The holding in Udall was not altered by ECPA. See H.R. REP. NO. 99-934 at 21.

In The Steamboaters v. FERC, 759 F.2d 1382 (9th Cir. 1985), the Commission had concluded that issuance of an exemption from licensing did not require preparation of an environmental impact statement, based solely on its reference to the mandatory terms and conditions imposed on the exemption by fish and wildlife agencies. The court reversed the Commission's order, pointing out that one agency cannot rely on another's examination of environmental effects under NEPA, but must independently assess the consequences of a project. This ruling applies with equal force to the Commission's analysis of fish and wildlife in the context of licensing, where agencies' submittals under Section 10(j) are recommendations.

Section 10(j) itself reflects the requirement that the Commission independently analyze project impacts on fish and wildlife resources, inasmuch as Section 10(j)(2)(B) requires the Commission to find, if rejecting an agency recommendation, that the conditions selected by the Commission will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife affected by the project.

Section 313(b) of the FPA provides that, upon judicial review, "[t]he finding of the Commission as to the facts, if supported by substantial evidence, shall be conclusive." The Conference Report recognizes that issues of material fact regarding recommendations will require "a hearing and an opportunity to build a record in support of, and in opposition to, the recommendations. In such a case, it is expected that a decision will be based on a full and studied review of the entire hearing record as developed under current FERC practice." H.R. REP. NO. 99-934 at 24.

* * *

The Conference Report stated that the conferees "fully expect that in most cases environmental consultations will serve to identify options which will be agreeable to the fish and wildlife agencies and which will adequately and equitably protect, mitigate, and enhance fish and wildlife consistent with the other project purposes." H.R. REP. NO. 99-934 at 25. To the same effect, Committee Chairman McClure stated that he expected the Commission to consider "whether there is

> an alternative way of accomplishing the objective of the recommendation which would minimize the effect on other project objectives." 99 CONG. REC. S15384 (Oct. 6, 1986).

Thus, while it is clear that the Commission is to give due weight to the fish and wildlife agencies' expertise, at the same time the Commission cannot, consistent with its statutory obligations, eliminate its independent analysis of fish and wildlife issues.

Question 2 (i) and (ii): The Fish and Wildlife Service states that Service biologists do not have the expertise and should not be expected to evaluate complex and detailed economic data or to conduct a cost/benefit analysis of study requests or recommendations. Does FERC conduct a cost/benefit analysis of (i) study requests and (ii) recommendations?

Answer (i): Staff normally does not conduct cost/benefit analyses of study requests. The staff will assess both the information presented by an agency in support of its study request and the information provided by the applicant in opposition to the study request to determine, on a case-by-case basis, whether a study is needed to provide the agency and the Commission with information necessary to make informed decisions on the license application. For example, staff will consider whether a study methodology recommended by an agency is more appropriate than other available methodology alternatives, including those identified by the applicant, whether the proposed study is generally considered as an accepted practice, and whether the studies and information requested by an agency will be useful in furthering the agency's resource goals and objectives.

The staff will also assess the costs of preparing a proposed study, taking into account the size and scope of the project, in order to ensure that any information needed will be obtained by the least expensive means. There may be instances where needed information may be obtained by a less costly study than that proposed by an agency. In that case, the applicant would be required to perform only the less costly study. However, there may also be instances involving small projects which affect significant resources where the costs of performing necessary studies are large in comparison with the value of the project.

Answer (ii): Agency and staff recommendations are evaluated in staff's environmental assessments or environmental impact statements and safety and design assessments prepared for each project. The staff conducts specific analyses to quantify developmental (e.g., power, irrigation, flood control, and water supply) and non-developmental (e.g., fish, wildlife, and recreational) values. The final decision on whether, and under what terms and conditions, to license a project depends on the balancing of all beneficial public interests under Section 10(a)(1) of the Federal Power Act, after consideration of the requirements of Sections 4(e) and 10(j) of the Federal Power Act.

The staff performs economic and financial feasibility studies which quantify the power benefits of the project. Although this analysis takes into account all project costs and benefits, it is not considered to be a classical cost/benefit analysis usually referred to by economists. In our studies, staff determines the energy that the project would produce as proposed by the applicant, and with the mitigation and enhancement measures recommended by the agencies and by staff.

For example, staff evaluates impacts on energy generation and economic benefits that result from each recommendation for minimum flows to protect fisheries or to maintain aesthetics or recreation. Other recommendations evaluated in this manner are those made for fish passage facilities, aeration systems, screening intakes, and buried project works. The economic analysis shows whether the proposed project is more or less expensive to construct and operate than alternative power resources in the region. Staff quantifies these costs and benefits in dollar terms where possible (i.e., mills/kiolwatt-hour, dollars/acre-feet, dollar spent per recreationist, etc.).

Staff is following closely research being conducted by the Electric Power Research Institute to attempt to evolve a cost/benefit analysis for use in making comparisons between competing developmental and non-developmental resources.

Question 3: With respect to the Commission's recent decision to license 16 projects in the Ohio Basin, Commissioner Moler stated that notwithstanding the imposition of substantial environmental terms and conditions, the rate of return for those projects licensed ranged from 9 percent to 17.4 percent. Is rate of return analysis used in relicensing decisions?

Answer: Staff examines the rate of return for projects proposed by non-utilities that involve new or additional capacity to determine whether a project could potentially be financed and constructed by the applicant. Staff would not typically use a rate of return analysis in relicensing decisions unless new capacity were involved. To the greatest extent possible, cost and economic benefits of each relicense alternative are considered in terms of dollars. When this is not practical, more subjective terms which clearly describe the positive and negative aspects of each alternative are used.

Question 4: In a relicensing proceeding, would rate of return analysis support a recommendation converting a facility from peaking to run-of-river?

Answer: Staff does not use a rate of return analysis in relicensing cases to determine whether to adopt a recommendation to convert a facility from peaking to run-of-river. Staff reviews cases individually and would evaluate the environmental impacts of the conversion from peaking to run-of-river on resources in the area, as well as the environmental impacts that would result from building any facilities to replace the lost hydro peaking generation. Staff also would consider the loss of the flexible characteristics of hydro peaking (i.e., quick start-up and shut down) and the impacts of the conversion on the licensee's power system.

Questions 5: How much weight does the Commission give to the present method of operating a facility in a relicensing proceeding, i.e. spinning reserve or peaking?

Answer: The amount of weight given by the Commission to the present method of operating a licensed facility is determined by the relative benefits of the present method and viable alternative methods of operation.

The viability of alternative methods of operation is determined by many factors, such as the power needs of the licensee (peaking, base-load and, in some cases, spinning reserve) in the service area of the facility, the existence, or nonexistence, of a storage dam or reservoir, and the environmental consequences of the alternative methods.

In evaluating any operational scenario, staff considers all quantifiable benefits and costs, such as the costs and benefits of any environmental enhancement measures, and, in cases where a project's operation would be changed from peaking to base-load, the cost of replacing peaking capacity.

Question 6: If a facility is used for spinning reserve or peaking purposes, does the Commission consider the economic, environmental and energy consequences of alternative spinning reserve or peaking facilities?

Answer: Yes. Regardless of the mode of operation, the Commission considers the economic, environmental and energy consequences of alternative facilities.

Question 7: Commissioner Moler stated that the statute required the Commission to balance, or to give equal consideration to both power and non-power values. Does the Commission equate balance with equal consideration?

Answer: Section 4(e) of the Federal Power Act (FPA), as amended by the Electric Consumers Protection Act of 1986 (ECPA), provides that,

> In deciding whether to issue any license under [Part I of the FPA] for any project, the Commission, in addition to the power and development purposes for which licenses are issued, shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

The Conference Report on ECPA states:

> In essence, the law will now specifically recognize these waterway values and require, where they compete, that FERC resolve these issues in a manner that takes them into account, but does not necessarily result in their equal treatment. [emphasis added]

H.R. Rep. No. 99-934 at 22. The Conference Report also states that ECPA "does not change FERC's present responsibility to resolve competing demands in the public interest." *Id.* at 25.

The meaning of "balancing" developmental and non-developmental values must be informed by the statutory text and the legislative history of ECPA. Consequently, such balancing must give equal consideration to developmental and non-developmental values and must resolve competing demands in the public interest. The Commission's resolution need not result in equal treatment of competing values.

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON D C 20426

OFFICE OF THE COMMISSIONER

November 6, 1989

Honorable Bill Bradley
Chairman
Subcommittee on Water and Power
Committee on Energy and
  Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

This is to inform the Subcommittee that I am in general agreement with the responses provided you by Chairman Hesse to the questions following up on the Subcommittee's September 28, 1989 hearing.

I would note that we must still respond to Senator Conrad's request that the staff take a look at the National Hydropower Association's chart to see what can be done to streamline FERC's process. I personally intend to pursue the matter.

One final, and separate, point. As the Committee is well aware, by statute, the Chairman has exclusive responsibility for the executive and administrative operation of the Commission. Consequently, I have no detailed comments on the staff's responses to Senator Bumpers' questions regarding the adequacy of the Commission's personnel and budget levels for the hydropower program (questions 1(a) through 1(c)). Suffice it to say, I have some healthy scepticism about the sufficiency of the staff resources.

With best wishes,

Sincerely,

Betsy

Elizabeth A. Moler
Commissioner

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D C 20426

November 6, 1989

OFFICE OF THE COMMISSIONER

Honorable Bill Bradley, Chairman
Subcommittee on Water and Power
Committee on Energy and Natural
  Resources
United States Senate
Washington, D.C. 20510

Dear Chairman Bradley:

Thank you for your letter of October 17, 1989, enclosing post-hearing questions pursuant to the September 28 hearing on hydro-electric regulation under the Federal Power Act.

I have reviewed the Chairman's response to these questions and concur with the answers she has submitted.

If you need additional information, please do not hesitate to contact me.

Sincerely,

Jerry J. Langdon
Commissioner

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON D C 20426

November 6, 1989

OFFICE OF THE COMMISSIONER

Honorable Bill Bradley
Chairman
Subcommittee on Water and Power
Committee on Energy and Natural
  Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Thank you for your letter of October 17, 1989, forwarding questions from the Subcommittee with regard to the Subcommittee's September 28, 1989, Oversight Hearing on Hydroelectric Licensing. Attached are my responses for the record.

Thank you for the opportunity to participate in the Subcommittee's oversight review of this important issue.

Sincerely,

Charles A. Trabandt

Charles A. Trabandt
Commissioner

Attachment

ATTACHMENT

Commissioner Trabandt's Responses
to Subcommittee Questions For The Record

1. Senator Bumpers' Question 1(a) through 1(c) address the adequacy of staffing in the hydroelectric regulation program. I defer to Chairman Hesse on the details, since she has the direct responsibility for management, administration and budget under the Department of Energy Organization Act. At the same time, I share the concerns of other witnesses that, as a policy matter, FERC staff resources in OGC and OHL may not be adequate to meet all assigned responsibilities to support timely processing of original licenses and new licenses (relicensing) under existing and proposed regulations. For example, I understand that new procedures for relicensing under Order No. 513, now pending rehearing, and under the pending Notice of Proposed Rulemaking for new regulations governing submittal of proposed hydropower license conditions and other matters could require additional legal and technical staff to satisfy all the requirements. The Commission's budget for Fiscal Year 1990 and proposed budget for Fiscal Year 1991 may need to be adjusted to reflect those additional Commission staff responsibilities. In any event, as a policy matter the Commission's budget should be adequate to support the necessary staff and expenses to ensure the timely processing of original and new licenses and the satisfaction of applicable statutory requirements.

2. Senator Bumpers' questions 1(d) through 1(h) address the respective responsibilities of Commission staff and the environmental services contractor. Chairman Hesse's answers are responsive to the questions, but I continue to share the concerns associated with the responsibility of the Commission for the policy formulation and guidance to the contractor. Our experience over the past four years has been that the formulation of the environmental alternatives in the NEPA documentation generally define the Commission's options in controversial cases. It was that formulation in the Ohio River Basin cases that defined the eventually accepted option of rejecting three projects with a total hydroelectric capacity of 45 MW. Thus, many of the technical decisions in the environmental impact analysis and NEPA documentation process can and do have substantive decisional impact on the Commission's ultimate action. Consequently, Commission staff must exercise close supervision of the environmental contractor at each stage of the NEPA process from initial scoping of the environmental issues through final Commission decisions.

3. Senator Bumpers' question 2 requests data on each relicensing application currently pending before the Commission. I defer to the Commission staff on that data.

4. Senator Bumpers' question 3 reflects the concerns expressed by the National Hydropower Association (NHA) and American Rivers (AR) (albeit with different conclusions) about the current licensing process with respect to the participation of the public and Federal and state resource agencies, including unresolved jurisdictional conflicts between FERC and those agencies. Chairman's Hesse's answer sets forth the view that the Commission is bound by various statutes to seek the views of other agencies and in some situations defer to the judgements of those agencies. As my testimony discusses at length, I believe that the Commission has complicated the process significantly by misinterpreting the applicable statutes in a number of important cases. Also, I am particularly concerned that the pending Notice of Proposed Rulemaking will further complicate the process in the proposed rules with regard to the rights of other Federal and state agencies and other entities to participate in the licensing process and, in some cases, dictate the results.

More specifically, the testimony I provided the Subcommittee on September 28, 1989 contained my comprehensive assessment of the Commission's current administration of its hydropower program. The testimony addressed the issues raised by the NHA and AR referenced in the question. NHA's concern about the numerous opportunities for recommendation and comment from environmental resource agencies is covered in my testimony beginning on page 7. NHA's second concern about unresolved jurisdictional conflicts is covered in the testimony beginning on page 12 and continues through page 19. The issue of public participation raised by AR is covered in the testimony beginning on page 22.

In addition, beginning on page 28 of the testimony I discussed how the current administration of the Commission's hydropower program gives far too many opportunities to opponents of projects to object and consequently delay the processing of the applications for these projects. In this regard, a recent Commission order, issued after the date I filed my testimony with the Subcommittee, supports the concern I expressed on this issue. In Public Utility District No. 1, Lewis County, Washington, Project No. 2833-019,020, (issued October 5, 1989), the Commission was faced with the issue of whether to grant interventions filed by 10 individuals who, in my view at least, clearly had no interest in this post-licensing proceeding other than relitigating issues already addressed in the underlying licensing proceeding. The majority decided to grant these interventions. I dissented.

The motions to intervene in that case raised only generic concerns about the project's desirability and had nothing to do with potential impacts of the changes in design. The generic issues were thoroughly considered and addressed by the Commission in the original license proceeding, as reflected in the license order and in the draft and final environmental impact statements. To the limited extent that any of the concerns raised by movants bear upon the proposed relocation or reconfiguration (e.g., the ability of the redesigned facilities to pass debris and sediment), the Commission already has dealt with those concerns in the process of reviewing and approving compliance plans submitted pursuant to various license articles. All of the major plans and reports which the District had submitted under the license had been based upon the redesigned project. Moreover, none of the movants owned any property or water rights that could be affected by the proposal.

Thus, in my view, the movants in that post-licensing proceeding did not satisfy the criteria set forth in Rule 214(b) of the Commission's regulations, 18 C.F.R. §385.214 (1989). They had no expressly conferred right to intervene. They **"demonstrated"** (as required by the Rule) no specific interest in the subject of the then-pending proceeding, namely, the design changes in the project. Finally, the movants did not show how their participation would be in the public interest. The objection made in the motions to intervene was merely a collateral attack on the license itself which has long been final.

It is my belief that by granting these parties intervention, the majority gave them opportunities to delay the actual construction and financing of the project by seeking rehearing at the Commission, and judicial review at the appropriate circuit court of appeals. This is precisely the kind of activity that is unnecessarily shackling the hydropower industry.

5. Senator Bumpers' question 4 addresses the critical issue of minimum flow requirements and related disagreements between the Commission and other agencies and private groups. My testimony discusses this issue generally and with regard to several specific cases. I generally agree with Chairman Hesse's answers. I would observe that I continue to have reservations about any mandated, generic application of the Instream Flow Incremental Methodology (IFIM) for the reasons cited in the answers, as well as other technical considerations. Apart from the issue of additional research, however, it is crucially important

that the Commission recognize that the decision on the minimum flow issue in many, if not most, cases goes to the heart of a responsible balance between hydroelectric development and other resource values that must be given "equal consideration". The economic viability of an otherwise acceptable project can be reduced materially or destroyed altogether where minimum flow requirements will not support adequate electric generation. Consequently, there must be sufficient focus on the result of the minimum flow calculation, as well as the methodology employed for the calculation. It is my view that often the debate about the methodology is really driven by the intended result and the calculation necessary to support that result, rather than the scientific accuracy of the methodology in the first instance.

6. Senator Wirth's question 1 asks about the status of Order No. 513 rehearing. I agree with Chairman Hesse's answer.

7. Senator Wirth's question 2 asks about the Notice of Proposed Rulemaking on sec. 10(j) of the Federal Power Act. I agree with Chairman Hesse's answer, although I would note that I disagreed with the necessity of such an NOPR as my testimony discusses.

8. Senator Wirth's question 3 asks about the Commission's communications with Chairman Dingell of the House Energy and Commerce Committee about the Commission's role as the final decisionmakers with respect to recommendations from state and Federal fish and wildlife agencies.

   I agree with Chairman Hesse's answer, although I would note that the letter to Chairman Dingell included an express statement that I believed the current 10(j) procedures and practices were satisfactory and did not require refinement in a rulemaking, as discussed in my testimony.

9. Senator Wirth's question 4 asks about how the Commission would propose to limit the dilatory tactics of intervenors and the resulting costs of licensing. I agree that the NOPR will attempt to create a better defined structure with deadlines and other procedural improvements. However, I disagree strongly with the implicit suggestion that the costs of licensing and relicensing are mandated by statutory and regulatory requirements that are virtually uncontrollable by the Commission. I would argue to the contrary that much of the current processing problem and resulting costs are products of Commission decisions that misinterpret statutory requirements (a self-inflicted wound, as it were), as discussed in my testimony. I also would repeat my concern that Order No. 513 and the pending

NOPR will repeat those mistakes.

10. Senator Conrad's question 1 asks for comment on the assertion by National Marine Fisheries Service and U.S. Fish and Wildlife Service that they would not be "second-guessed" by FERC with respect to their technical expertise. I agree generally with Chairman Hesse's answer to the question. Put more succinctly, the positions of the NMFS and U.S. F&WS would require Congressional action to amend existing law, including the Electric Consumer Protection Act. As I testified, much of the pressure on FERC has been to implement the bill passed by the House of Representatives, rather than the Conference Report enacted by Congress. Of course, it is the plain meaning of the final legislation memorialized in the Conference Report, and not the House-passed bill, which must govern the respective authorities and responsibilities of the Commission and the state and Federal resource agencies, as a matter of law. Further, as a matter of policy (which I argued in my testimony is significant national policy) the Commission must be the central decision-maker with appropriate emphasis on the critical importance of hydroelectric development in the future. That national interest, in my judgment, must not be subordinated to the single resource issue focus of those agencies in the absence of a statutory requirement to that effect, which does not now exist.

11. Senator Conrad's question 2 asks about the Commission's conduct of cost/benefit analyses of (i) study requests and (ii) recommendations.

    I agree generally with Chairman Hesse's answers. I would note that Order No. 513 now requires resource agencies to provide specific information on requested studies in the hydro relicensing process to assist the Commission in assessing the need for the study and whether the methodology is a generally accepted practice. These new requirements should serve to ensure better that studies are required only when necessary and then only with an appropriate and cost-effective methodology. I also would note that my testimony discusses several specific cases on the issue of recommendations and resulting economic viability.

12. Senator Conrad's questions 3 and 4 asks about rate of return analysis. I agree generally with Chairman Hesse's answers.

13. Senator Conrad's questions 5 and 6 asks about the weight given to the present method of operation in a relicensing proceeding. I agree generally with Chairman Hesse's answers.

14. Senator Conrad's question 7 asks about the "equal consideration" requirement in the Electric Consumer Protection Act of 1986. I address this issue at some length in my testimony, at pages 2-7, in the context of the difference between "equal consideration" and "equal treatment". As I conclude there, the Commission unfortunately has had a tendency recently to subordinate hydroelectric development to other resource values in a manner that approximates "unequal treatment" for proposed projects.

For example, on August 16, 1988, the Commission issued a license to the Pennsylvania Hydroelectric Development Corporation that included, in my view, an unnecessarily high minimum flow requirement (see, 44 FERC ¶61,252). In the order issuing license, the majority determined that a flow release of 650 cfs was required at that time in order to adequately protect the visual resources at the project site. I pointed out in my dissent that the majority's order itself acknowledges that only 250 cfs was necessary to protect the aquatic life in the Schuylkill River, and that figure was acceptable to all state and local agencies except the county planning commission. The majority's order further states that the increased minimum flow requirement for visual resources will reduce average annual generation by approximately 843,000 kWh. The only justification for the 650 cfs figure was the perceived need to maintain whitewater splashing at the base of the dam, rather than a smooth flow. Among the range of flows above 250 cfs, the 650 cfs figure appeared to me to be relatively arbitrary.

At the Commission meeting during which this matter was discussed, Staff conceded that the reduction in average annual generation made this project only marginally economic. Moreover, Staff's assessment that the project is only marginally economic does not include the potential additional cost of acquiring title to the project site which, at that time, was in the hands of the Commonwealth of Pennsylvania. Consequently, the majority chose to require 650 cfs to keep the whitewater splashing, even though the economic viability would be threatened directly as a result.

In August of this year, the licensee filed a request to surrender the license before it even started construction, presumably because of the projects marginal economics. As I pointed out in my dissent to the majority's decision, the Federal Power Act as amended by the Electric Consumer Protection Act of 1986, requires only "equal consideration" of power and non-power issues; not necessarily equal treatment. The majority in the Pennsylvania Hydroelectric Development Corporation case incorrectly elected to give preferential treatment to the visual resource at the project site, at the expense of the needed project.

I would hope that licensing decisions in the future would restore a proper balance and emphasis on the developmental values associated with hydroelectric projects.

NATIONAL
HYDROPOWER
ASSOCIATION

Responses to Senator Dale Bumpers' Questions
By Gail Ann Greely, Vice President, NHA

Subcommittee on Water and Power ECPA Oversight Hearing

Introduction: To illustrate the complexities of the hydropower relicensing and licensing processes, NHA Vice President Gail Greely mentioned that one project had four inconsistent instream flow release schedules from five different state and federal agencies. The project referred to was the 900 kw Dynamo Pond Project in California (FERC Project No. 8142). The project is located below an existing dam on Green Creek in the East Walker River watershed, on the east slope of the Sierra Nevada. Multi-year fish population surveys done for the license application indicate that the diverted reach of the creek contains from 600 to 1000 total fish. The various steps in the licensing project have produced the following instream flow requirements:

FERC license — 5 cfs all year
State water right permit and Section 401 water quality certification — 9 cfs all year
Bureau of Land Management right-of-way — 12 cfs late summer to spring; 15 cfs spring and early summer
Corps of Engineers Section 404 dredge and fill permit — 15 cfs all year

1. *"Is there not a commonly accepted methodology for determining instream flow requirements?"*

There is not. There are a number of competing methodologies (reviewed in the Electric Power Research Institute publication Instream Flow Methodologies, EA-4819), but they all suffer from the fact that they oversimplify and overgeneralize the effects of flow on aquatic and riparian organisms. Disastrous effects on the ecosystem predicted by these methods for low or fluctuating flows have not materialized; beneficial effects predicted for high flows similarly have not occurred. The problem is that the methodologies have not progressed to the point that they realistically simulate the effects of flow regimes on plant and animal populations. The most promising ones, developed by license applicants for specific projects are moving in that direction. However, there are not, as yet, any generalized methodologies that even attempt to include all the major environmental factors likely to affect fish populations. For example, one generalized method, the Instream Flow Incremental Methodology (IFIM), developed by the U.S. Fish and Wildlife Service, has been widely applied throughout the U.S. and is often presented as a commonly accepted methodology. All it produces, however, is its own measure of the amount of physical habitat (Weighted Usable Area, or WUA) for different life stages and species of fish resulting from a particular flow. Studies do not support the underlying proposition of IFIM that WUA accurately represents the environmental factors limiting aquatic populations. In fact, the most recent studies suggest that the habitat condition actually limiting fish populations occurs during

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flooding, not during the base flow conditions to which the IFIM results are usually applied. In such situations, recommending flows that would provide large amounts of WUA for most of the year would have no effect of fish populations.

2. ***"If not, is this an area where further research is needed?"***

Absolutely. There are two basic problems. First, most methodologies have considered only a limited and unrealistic subset of the environmental factors known to be involved in influencing aquatic populations. Generally this has been done for the sake of simplicity, or because there was insufficient funding to collect the appropriate data. Research could be funded to better identify the significant factors and develop a methodology that would use them to make more realistic predictions of environmental effects. Second, most methods have not produced testable hypotheses, and so have had only limited application as aids to agency decision-making. They have not been subjected to the kind of rigorous testing that science demands. There is general agreement in the scientific community that proper instream flow methods should predict some measurable effects of flow changes on the fish population, and should be tested experimentally to verify the predictive validity of the method. See Electric Power Research Institute EA-5007, Proceedings: Workshop on Instream Flow Research Needs.

3. ***"Would a federally sponsored program be appropriate?"***

Serious scientific study in the two areas discussed above would be very valuable in assessing existing methodologies and developing new ones to meet the continuing need for reliable predictions of the response of the ecosystem to changing conditions. To date, federal funding through the Department of Interior has focussed on the development and promulgation of IFIM and other methods, though they remain untested and unvalidated. The Department of Energy has provided only very limited funding to test methodologies. These untested methodologies are already being used to make decisions directly and significantly affecting the public's interest in energy and water development throughout the country. Federal regulatory and legislative programs should be supported by instream flow assessment methodologies that have a solid scientific foundation.

4. ***"What other suggestions do you have to prevent conflicts in this area?"***

The present conflicts occur mostly when agencies and project proponents face the possibility of trade-offs between instream flow releases for fisheries and power production, lake recreation, water supply or other water uses. But because the present methodologies cannot produce reliable predictions of the actual biological effects of changing an instream flow regime, the real trade-offs are not known. We can predict the reduction in available irrigation water or electric generation from a proposed increase in instream flows. We cannot with confidence predict how many more fish, if any, will result from that change. Instead, the discussion tends to focus on whether "habitat" should be optimized at the expense of power production, since "habitat or WUA" is the only measure we have. The biological consequences of "optimizing habitat" in this way are largely unknown.

There are currently a wide variety of license conditions required to meet other environmental mitigation measures, for which there is no tested methodology, and which should be included in any federal research program. These would include the "Wildlife Habitat Evaluation Procedure" and "Physical Habitat Enhancement."

In addition to a federal research program to produce better "general" methodologies, better information could be gathered on a project-specific basis. The Federal Energy Regulatory Commission currently relies on the array of unvalidated flow methodologies to make the important resource "trade-offs". They could encourage a more scientific approach to evaluating the effects of a particular flow regime, by directing applicants, in selected cases, to collect appropriate site-specific data on the factors affecting aquatic life, rather than performing expensive studies using one of the untested methodologies. The other involved agencies might then also be less likely to take refuge in "standard", but untested methods.

However, even if more reliable and biologically-sound methods became available to predict the impact on the fishery of changing flow regimes, conflicts would continue to occur over the value of that fishery. If the decision on a particular project comes down to a trade-off between power production and instream flow, and the scientific methodologies confidently predict an increase in the fish population of 3,000 fish, the question remains whether 3,000 fish is worth a loss of, for example, $1 million annually in electric generation. While valuation of such resources if always difficult, the debate must at least recognize that the comparison must be made. Decisions on the use of the public's resources must consider cost-effectiveness. Conflicts over instream flow will continue until all participants in the process recognize this.

Finally, it is obvious from any close examination of the hydropower licensing and relicensing processes that conflicts will continue as long as state and federal agencies disagree about who has ultimate authority to decide the level of instream flows. In the Dynamo Pond example, conflicting jurisdictions compounded the problems created by untested methodologies. Each agency had a different perspective on resource management; each agency had a different assessment of the methodology and interpretation of the study results; and each agency laid claim to ultimate decision-making authority.

American Rivers

January 18, 1990

Mr. Bill Conway
Senate Water and Power Subcommittee
306 Dirksen Building
U.S. Senate
Washington, D.C. 20510

Dear Mr. Conway:

The Subcommittee has requested responses to certain questions that arose during the recent oversight hearings concerning the Federal Energy Regulatory Commission's hydroelectric licensing program. American Rivers is hereby responding to the Subcommittee's request.

1. Is there not a commonly accepted methodology for determining instream flow requirements? There is no commonly accepted methodology, in part because instream flows below hydroelectric projects serve different purposes. A variety of instream flow methodologies are in current use to evaluate instream flow requirements for fisheries. While these methodologies generally try to establish the relationship between different flow levels and the health and abundance of different fisheries resources, they differ in their approach for defining this relationship and in the criteria for selecting desireable flow levels.

Different methodologies are employed to evaluate the effect of instream flow levels on riverine aesthetic values and on recreational boating. Compared to instream flow methodologies for fishery resources, there has been little effort to develop these types of instream flow methodologies. Especially in view of the widespread public interest in obtaining whitewater boating releases below existing hydroelectric facilities scheduled for relicensing, particular attention needs to be devoted to developing and refining methodologies for assessing flows for boating and rafting.

2. If not, is this an area where further research is needed? Yes.

3. Would a federally sponsored program be appropriate? A variety of federal agencies, including the U.S. Fish and Wildlife Service, have active programs to examine the technical and policy issues associated with instream flows. These existing programs should be expanded.

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Mr. Bill Conway
January 18, 1990
Page 2

4. What other suggestions do you have to prevent conflicts in this area? American Rivers believes that clearer lines of authority need to be defined for establishing instream flow requirements. As we discussed in our testimony before the Subcommittee, the Federal Energy Regulatory Commission has not given adequate deference to the expertise of federal and state resource agencies, as required by the Electric Consumers Protection Act of 1986.

Thank you very much for this opportunity to comment.

Sincerely,

John D. Echeverria

John D. Echeverria
General Counsel

January 26, 1990

Response of David R. Conrad, National Wildlife Federation, to questions submitted for the record by Senator Dale Bumpers for Hydroelectric Licensing Oversight Hearing

Question 1. Is there not a commonly accepted methodology for determining instream flow requirements?

Ans. The answer to this question is both yes and no. There are several generally accepted methodologies which are based on descriptions of fish habitat or on proportions of historic flow records. Such methods (e.g., New England Aquatic Base Flow Method, Wetted Perimeter Method, Washington Toe-Width Method, Tennant Method, as well as Physical Habitat Simulation Method and Instream Flow Incremental Methodology) are commonly in use in the United States. As I understand it, the Fish and Wildlife Service, National Marine Fisheries Service, and the state fish and wildlife agencies are generally comfortable with these methodologies for protection of existing stream fishery resources. They are especially useful for determining stream flows necessary to maintain existing habitat conditions in previously unimpacted coldwater stream systems. Particularly for coldwater fisheries, these methods were evaluated and used successfully during the small hydro "goldrush" era of the early 1980's.

The habitat-based methodologies are usually sufficient for making statements on the general direction of response of fish populations and other aquatic life to changes resulting from increased releases in previously dewatered stream sections. However, for the large number of hydro project relicense applications that are expected to be filed at the FERC through the next decade, the fish and wildlife agencies will be expected to develop recommendations to adequately protect, mitigate and enhance conditions in streams that have been previously adversely impacted. It is now critically important to test the models and methods, especially for coolwater and warmwater streams, in order to be able to make predictions of fish population responses to alternative hydro project release regimes.

Experts with the Fish and Wildlife Service and the State agencies believe that statements can be made with a relatively high degree of confidence about probable responses of resident trout and Pacific salmon fish populations to improvements in stream conditions brought about by flow release changes. However, in the midwest and eastern U.S. where trout and salmon are not the dominant species but rather the bass, catfish, minnows, and darters make up the predominant community and also for many non-game species everywhere, experts appear to agree that enough research has often not been conducted to conclusively make such statements about the response of fish populations or fish communities to changing flow release schedules below hydro units. The Midwest and Eastern U.S. are the areas of the country where the bulk of the relicensing activities will take place in the coming decade.

Unacceptable Instream Flow Methodologies. Much confusion still exists in the hydro development community over proper application of methods. Habitat-based methods have become the generally-accepted norm by agencies and developers for trout and salmon fisheries in the northwest and intermountain states. Also, flow-based methods are accepted by agency biologists when based on the appropriate portion of the natural flows (historic record of streamflows prior to development) such as the Tennant method when applied in the range of 30-60 percent of the mean annual flow or the median flow of the low flow months. (Aquatic Base Flow is typically the median August or September flow).

Unfortunately, water resource engineers and hydro developers in the midwest and eastern U.S. have attempted to impose the short term survival concepts of the Tennant method as permanent releases below hydro reservoir and bypassed stream reaches. Such applications are simply not appropriate inasmuch as they depress the fishery to a very low population state. Examples of such methods which have been proposed and are totally unacceptable for protection--let alone enhancement--of fish and wildlife are:

1) the 7Q10 (the lowest seven consecutive days of flow occurring in a ten year period of record),
2) ten percent of the mean annual flow (short term survival from the Tennant method),
3) the ninetieth percentile flow (the flow equalled or exceeded 90 percent of the time), and,
4) the lowest flow of record (the all time lowest flow during the worst drought).

In many eastern streams, the 7Q10 is naturally at or near zero flow. However, these same streams have substantial natural flow throughout much of the year and the fish communities utilize these wet season conditions for migration, spawning, and renewed growth. Many existing hydro projects pass only leakage or uncontrolled flood flows downstream and the fisheries below these projects are extremely low in numbers or non-existent.

The resource agencies are looking to the next decade of hydro relicensing as a major opportunity for restoring many of the nation's streams to healthy and highly productive fisheries for public use and enjoyment. Continued "minimum releases" based on seven day Q-10 hydrology will perpetuate the philosophy of optimizing hydro and consumptive use of water from our streams while minimizing the fishery recreation and aesthetic values of river resources. This kind of exclusive and highly damaging use of water resources should be vigorously discouraged.

Question 2. If not, is this an area where further research is needed?

Ans. Yes, further research is definitely needed. The lack of tested and generally transferable methodologies for eastern warmwater and coolwater fish communities will most likely result in a continued controversy among agencies and hydro development interests. As I understand the situation, research is quickly needed to avoid what could amount to major delays in the relicensing regulatory process. Model testing and existing model modification for application in warmwater streams is required. Also, development and testing habitat models for a number of fish species in the northeastern, midwestern, and southeastern United States is necessary. For warm water streams the most productive approach would be to develop fish community models as opposed to single species models. Particular emphasis needs to be placed on the response of fish communities to rapid streamflow fluctuations.

Question 3. Would a federally sponsored program be appropriate?

Ans. If the Federal Government does not sponsor this research, it is unlikely that it will happen, and it certainly will not happen soon enough to facilitate the processing of federal relicense applications in a timely manner. A federally sponsored research program has been called for by the various resource agencies and particularly has been highlighted in recent articles in Fisheries journal by the American Fisheries Society (Mar./April 1989 issue attached) and by the Warmwater Streams Committee of the Southeastern Division of the

American Fisheries Society. This research initiative was started in late 1988 by the Fish and Wildlife Service with funding by Congress and the opening of a two person research station at Auburn University in Alabama. With the help of the Warmwater Streams Committee, an expanded research and development plan (also attached) has recently been put together which calls for research on stream habitat-streamflow relations, fresh water mussel habitat requirements, and the general transferability of fish habitat suitability models throughout the Southeast.

More recently, the resource agencies in the northeastern U.S. have called for similar research focusing primarily on smallmouth bass and the commonly associated riverine communties. A research capability statement was put together responding to this need and calls for field research to be conducted in the states of New York, Pennsylvania, Virginia, and West Virginia through the Co-op Fishery Research Units and the cooperation of the State fish and game agencies. If anything, the instream flow research needs in the Upper Midwest and the Northeast are even more critical because so many relicensing proceedings are soon to get underway in these regions.

Question 4. What other suggestions do you have to prevent conflicts in this area?

Ans. I would add these following additional suggestions:

a) Controlled streamflow experiments have been called for by fishery agencies and the academic community. Such studies are needed to verify and validate that fish population responses under various streamflow alterations are indeed predictable. The U.S. Fish and Wildlife Service and state fish and game agencies have proposed that an experimental research stream channel be developed for these purposes because of the extreme difficulty in conducting certain types of instream flow studies below operating hydropower plants.

b) Greater cooperation must be sought from project licensees in order to conduct necessary applications of instream flow methodologies. The Federal Energy Regulatory Commission should play an active role in facilitating cooperation between agencies and license applicants.

c) Follow-up monitoring studies after licensing should be established to verify that the expected biological results of the application of instream flow methodologies are actually what happened. Such monitoring studies should be a requirement included in FERC licenses.

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FISHERIES

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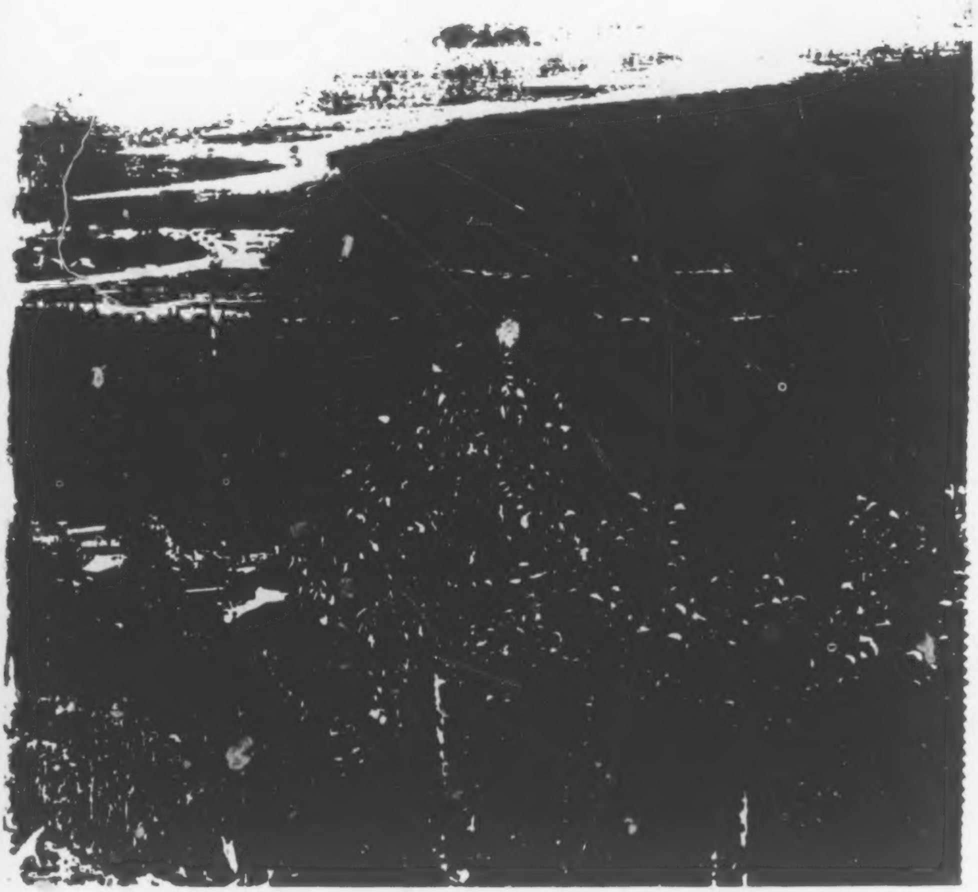

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THE COVER: The Homer Spit, a natural 4-mile-long sand and gravel structure, extends into Kachemak Bay, one of the most beautiful areas of south-central Alaska. Fireweed is blooming in the foreground. To read more about the 1989 AFS annual meeting and the many things to see in Alaska, turn to page 40. (*Photo by Norma West Dudiak.*)

Status of Instream Flow Legislation and Practices in North America

Dudley W. Reiser, Thomas A. Wesche, and Christopher Estes

ABSTRACT

This paper presents the results of two nonstatistical surveys (completed in 1981 and 1986) that solicited information from state and federal agencies concerning instream flow issues and practices in North America. Forty-six states and 12 Canadian provinces responded to the survey. Fifteen of the 46 states reported legislative recognition of instream flows for fisheries protection. In Canada, individual provinces generally lacked instream flow legislation, although federal legislation existed that could be used. The most commonly applied method (in use in 38 states or provinces) for assessing instream flow requirements, as reported in the survey, was the Fish and Wildlife Service Instream Flow Incremental Methodology (IFIM). Major research needs cited by survey respondents included (1) more species habitat information and preference curves, (2) techniques for determining instream flows for atypical conditions, and (3) testing of fish habitat flow production relationships.

Increases in the number of proposed water development projects in North America have forced fisheries biologists to predict the level of effects that result from such projects. When water is developed for agricultural, municipal, industrial, and power production uses, the magnitude, timing and duration of natural flows may be altered, thereby affecting the availability and quality of fisheries habitat (Peters 1982). Therefore, the biologist needs to determine the amount of water that must be left in the stream to maintain aquatic resources at some desired level. Such flows are often termed "instream flows." To this end, a number of formal methodologies for prescribing instream flow (IF) needs have been developed (Stalnaker and Arnette 1976; Wesche and Rechard 1980; EA Engineering, Science, and Technology, Inc. 1986).

Today, although various state and federal resource agencies agree that instream flows for fisheries should be a recognized use of water, they differ as to how instream flows are legally perceived and or derived. In addition, because of geographic differences, instream flow problems will vary by region with fish species (Peters 1982).

In 1981, the Water Development and Streamflow Committee (WDASC) of the Western Division of the American Fisheries Society (WDAFS) surveyed the western United States and part of Canada and Mexico (WDAFS 1981) regarding IF procedures and programs and to assess their effectiveness for providing flows to sustain fishery resources. The WDASC repeated and expanded the survey in 1986 to include all of North America. In this paper, we summarize the results of both surveys, emphasizing the expanded 1986 survey. McKinney and Taylor (1988) provides a more comprehensive summary of some western state programs and we recommend it as a supplement to this paper.

Survey Format

We undertook the 1986 survey by mail using a questionnaire patterned after the 1981 survey, the results of which were summarized but never formally published (WDAFS 1981). The questionnaire solicited information on:

- status, title, and effectiveness of current instream flow legislation;
- name of agency(ies) administering instream flow activities;
- methods used for assessing IF needs;
- basis for selecting a given method;
- ways in which field results are used in formulating an IF recommendation;
- major IF related research needs; and
- other concerns related to IF's.

We sent 202 questionnaires to 186 agencies in the 50 states and to 16 agencies in 12 Canadian provinces that administer fish and wildlife resources, and in some instances water resources. For many states, we also sent questionnaires to the federal agency administering federal regulations in that area, e.g., Fish and Wildlife Service (FWS).

Survey Results

We received responses to 100 of the 202 mailed questionnaires, a return rate of 49.5%. The non-responding states, provinces, and territories were Connecticut, Iowa, Maryland, District of Columbia, Prince Edward Island, Quebec, Saskatchewan, and the Yukon Territory. Summary responses for each state or province are presented in Table 1.

Instream Flow Legislation

Fifteen of 46 states (33%) reported legislative recognition of instream flows for fish and aquatic resource protection (Fig. 1). Several noted that other related legislation addressed instream flows; most commonly, statutes concerning water quality and quantity for industrial, agricultural, and domestic uses. Not surprisingly, 9 of the 15 states (60%) that have IF legislation are in the western U.S. where the concept for and impetus behind the preservation of instream flows for fish and wildlife had its origins (Fig. 1). Water law in

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Table 1. Summary of responses to the 1986 instream flow questionnaire

State/province	Status of IF legislation	Title of IF legislation	Effectiveness of legislation	Agencies administering IF	IF field methods used	Major IF research needs
Alabama	None	N/A	N/A	FERC, AL Dept. Environ. Mgt., [illegible]	IFIM, WRPFIM, Tennant	Test validity of IFIM on [illegible] warmwater species; [illegible] preference curves [illegible]
Alaska	Enacted	[illegible] AK Water Use [illegible]	[illegible]	AK DNR, AK DEC, [illegible] Streams	IFIM, Tennant, [illegible] proven methods	Need methods [illegible] Alaskan conditions; [illegible] better [illegible] data [illegible]
Arizona	None (legislation was proposed but [illegible] passed)	N/A	N/A	AZ Dept. Water Res., [illegible]	IFIM	Preference curves for native species [illegible] [illegible] fish habitat
Arkansas	Enacted	[illegible]	[illegible]	AR Soil and Water Comm.	AR method (discharges) using IFIM	Validation of models [illegible] models based on [illegible] numbers; emphasis [illegible] rather than [illegible]
California	None (related legislation: section 5937 of Fish and Game Code)	N/A	N/A	State Water Res. Control Board; CA DF&G determines need and quantity	IFIM (IFG4); USFS has used R2 Cross; other methods considered	Validation of models [illegible]; need more generalized [illegible] models that work with invertebrates; [illegible] effects of prolonged low flows on fish populations in tributary [illegible]; need mainstem habitat [illegible] subsections of IFIM [illegible] (required)
Colorado	Enacted	Senate Bill 97 passed in 1973; additional legislation in 1987	Variable	CO Water Conserv. Board; flow recommendations made by CO Div. Wildlife	R2 Cross as specified in SB 97; select cases use IFIM	Validation of weighted usable area (WUA) as a function of fish population (does habitat relate to fish?)
Delaware	None	N/A	N/A	N/A	Evaluate water quality with respect to flow	Instream flows are not a major issue in Delaware and no instream flow problems have developed in the state
Florida	None (related legislation)	N/A	N/A	FL Game and Fresh. Fish Comm., FL DNR, FL Dept. Env. Reg.	Based on water quality standards and local conditions	Need to determine optimal flow for river systems; address problems of water quality and flow fluctuations
Georgia	None (related legislation)	N/A	N/A	GA Environ. Protection Div., GA Water Res. Mgt.	7Q10, IFIM (PHABSIM)	Need habitat curves for eastern streams; need new techniques for southeastern streams
Hawaii	Enacted	HI Instream Use Act of 1982	Untested	HI Dept. Land & Nat. Res., Div. of Water & Land Dev.	IFIM is being tested; have used Q90 values	Need to define microhabitat requirements of native stream fauna (mollusks, [illegible] etc.); correlate habitat to fish production; determine applicability of IFIM to high gradient streams
Idaho	Enacted	1978 Minimum Streamflow Act	Unknown	ID Dept. Water Res.; ID Dept. Fish & Game makes recommendations	IFIM, Wetted Perimeter	Need more stream and species-specific probability-of-use information
Illinois	None	N/A	N/A	IL Div. of Water Res.	IFIM	Need definition of relationship of flow/habitat/fish population
Indiana	Enacted (several codes relate to flow releases from dams)	IN Code 13-2-6.1, Water Resource Mgt.	Untested	Nat. Res. Comm. of IN DNR, Div. of Water provides tech. input	IFIM (IFG4 & WSP), Tennant	Determine which streams need IF protection and how to set flow needs; more individuals trained in IF methods
Kansas	Enacted	1984 Minimum Desirable Streamflow Act	High	Chief Engineer, Div. of Water Res. of Board of Agriculture	IFIM	Validate response of standing crops to varying flow regimes; assess adequacy of established minimum flows
Kentucky	None (pending)	N/A	N/A	KY Div. Water, Nat. Res. & Environ. Protection	Professional judgment, Tennant	More streamflow data for the state (present coverage is thin); flushing flows; water quality effects; low flow augmentation for wastewater plants
Louisiana	None	N/A	N/A	Not Stated	Little need for IF determinations	Preference curves for warmwater stream fishes
Maine	None (related legislation)	N/A	N/A (Related legislation is effective)	ME Dept. Environ. Protection, Dept. Inland Fisheries & Wildlife	HEP and IFIM and modifications thereof; also professional judgment	Accurate predictive models for small watersheds; preference curves for northeastern species; assess population response to flow establishment (follow-up studies); habitat inventories of all watersheds; fish behavior studies related to flow regulations; techniques for using HEP and IFIM in deep rivers; assess effects of winter time flow regulation; assess effects of flow regulation on substrate composition

Table 1. (continued)

State/province	Status of IF legislation	Title of IF legislation	Effectiveness of legislation	Agencies administering IF	IF field methods used	Major IF research needs
Massachusetts	None	N/A	N/A	MA Water Res. Comm., MA Div. Fisheries & Wildlife	MA Balance, Aquatic Base Flow, 7Q10	Habitat requirements data of important eastern species for use with IFIM; information on minimum flow needs in flow-through ponds
Michigan	None	N/A	N/A	MI DNR, State Water Res. Comm.	Wetted Perimeter (riffle habitat method similar)	HSI model verification; HSI model development for invertebrates; HSI development for nongame fish species
Minnesota	Enacted (1977, 1981)	MN Statutes 105.38, Subd. 105.41	Effective	MN DNR, Div. of Waters	In the process of selecting methods	Assess applicability of existing HSI curves for fish species in Minnesota; develop techniques to assess impacts of peaking flows on aquatic systems; evaluate existing IF methods for use in MN; test validity of fish biomass : habitat relationships
Mississippi	None (attempted but failed in legislature)	N/A	N/A	MS Bureau of Pollution Control, MS Dept. Wildlife & Fisheries	IFIM, also standard hydrological methods	Suitability indices for warmwater systems in southeastern U.S.; research to assess effects of diverted streams and gravel operations
Missouri	Pending (water bill introduced into 1988 legislation)	House Bill 1470	Untested	MO DNR, MO Dept. of Conserv.	IFIM (WSP and IFG4), Tennant, personal experience	More models; more stream gauges to monitor discharge
Montana	Enacted	Water Use Act of 1973	Effective	MT Dept. Fish, Wildlife and Parks quantifies rights; DNR and Conserv. reviews applications; Board of Nat. Res. & Conserv. grants rights	Wetted perimeter, inflection point, others considered	Summarize data of biological responses to flows; flow needs for wetlands and riparian habitats; impacts of rapid fluctuations on fish; biological needs of flushing flows; assess impacts of winter water depletion on fish; assess effects on existing small hydro on fish; legal means to augment flows in depleted streams
Nebraska	Enacted (1984)	Instream Appropriations, 46-2,107 to 46-2,119, Bill 1106	Untested	NE Nat. Res. Districts (24), NE Game & Parks Comm. specifies reaches, Nat. Res. Comm. files application, Director Wat. Res. grants permit	None specified	Determine channel maintenance flows in alluvial streams; can cross section change in dominant discharge be used to predict long term change in width, depth, etc.
Nevada	None	N/A	N/A	NV State Water Engineer, NV Dept. of Wildlife	None specified	None at present
New Hampshire	None (attempted but failed in legislature)	N/A	N/A	NH Fish & Game, NH Water Res. Board	Aquatic Base Flow, IFIM, HEC-2, site specific data, historical flow data	Suitability curves for northeastern species including Atlantic salmon; determine if differences in SI curves exist between large and small streams
New Jersey	None	N/A	N/A	NJ Dept. of Environ. Protection, Div. of Water Res.	MT Method, New England Method, 7Q10	Better define characteristics of New Jersey's streams; develop minimum flow procedure that will protect aquatic biota; define minimum flows to protect fresh salt-water interface; more information on fish screening and passage
New Mexico	None (attempted but failed in legislature)	N/A	N/A	NM State Water Engineer	No specific methods, IFIM has been used	Develop curves for T&E species; determine habitat needs of native fish species
New York	None	N/A (regional legislation passed for 31 reservoir releases)	Inadequate	NY Dept. of Environ. Conserv., Div. of Fish & Wildlife, Div. of Reg. Affairs; NY Dept. of Health	IFIM, professional eyeballing, flow duration curves	Improved habitat electivity curves for fish & aquatic invertebrates; establish flow, habitat production relationships; develop electivity curves for recreational activities (boating, fishing, etc.); water quality-flow relationships; assess effects of pulsing or peaking flows
North Carolina	None (related legislation)	N/A	Cumbersome	NC Div. of Wildlife Res., Div. of Water Res., Div. of Environ. Mgt.	IFIM, wetted perimeter, September median flow	Warmwater riverine fish preference curves
North Dakota	None	N/A	N/A	ND State Water Comm., Game & Fish Dept.	Tennant	Habitat needs of forage and gamefish of intermittent prairie streams; better fisheries data on streams; define physical parameters relating habitat to flow; data to define minimal flow needs
Ohio	None	N/A	N/A	OH DNR, Div. of Water	Standard USGS methods	Assess impacts of flow modification due to small scale hydro; need adequate staff and funding to work on instream flow problems
Oklahoma	None*	N/A	N/A	OK Water Res. Board	IFIM, Tennant	Determine flow requirements for optimum sportfishing, transbasin flow diversions, impacts of flow regulation on fisherman use; evaluate significance of intermittent streams; develop IF methods for large rivers; work on water quality models

Table 1. (continued)

State/province	Status of IF legislation	Title of IF legislation	Effectiveness of legislation	Agencies administering IF	IF field methods used	Major IF research needs
Oregon	Enacted	ORS 536.325 (1985)	Untested	Water Res. Comm.; OR Dept. of Fish & Wildlife determines flow needs	IFIM and versions; Oregon method	Evaluate IFIM habitat–flow relationships; develop and validate new methods for water resources planning and small projects
Pennsylvania	Enacted	Clean Streams Law of 1978	Low flows still impact fisheries	PA Dept. of Water Res.; PA Fish Comm.	Q7-10; 30% Avg. Annual Flow (Tennant); .25 cfsm	Effects of water quality, flow fluctuations and reduced flow; validate IFIM and validate fish models for eastern streams
Rhode Island	None	N/A	N/A	RI Div. of Fish & Wildlife	N/A	Current wetlands and dam regulation addresses instream flows
South Dakota	None (under consideration)	N/A	N/A	SD Dept. Game, Fish & Parks; SD Dept. Water & Nat. Res.	IFIM; see text; [illegible] surveys	Habitat suitability curves; [illegible] and development of [illegible] models; water quality changes related to flow regulation; [illegible] in all SD streams; [illegible]
Tennessee	None (related legislation)	N/A	N/A	TN Office of Water Mgt.; TN Wildlife Res. Agency; TVA	IFIM; visual assessment	None stated
Texas	Enacted	House Bill 2, 1985; Parks & Wildlife Code 12.0011 and 12.024	Untested	TX Water Comm.; TX Water Development Board; TX Parks & Wildlife Dept.	IFIM	Assess surface water availability for future development; more extensive data base; effects of flow fluctuations and water quality changes
Utah	Enacted	House Bill 58, Instream Flow Amendment 1986	Untested	UT Div. of Water Res.; UT Div. Wildlife Res. recommend flows	IFIM; Tennant	Effects of peaking on fisheries; improve preference curves of cutthroat trout; develop preference curves for nongame fish; test habitat–fish population relationships; establish flushing flow methods
Vermont	None (attempted in 1974–1980)	N/A	N/A	VT Dept. of Fish & Wildlife; VT Dept. of Water Res.	VT Fisheries Flow Needs Method; IFIM; New England Aquatic Base Flow (ABF)	Regional habitat suitability curves; effects of short-term flow fluctuations on habitat use; long-term effects of flow by-pass on channel morphology; test relationship of flow and fish community structure, growth and abundance
Virginia	None (related legislation)	N/A	N/A	VA State Water Control Board; VA Comm. of Game & Inland Fisheries	Wetted perimeter; TQI; IFIM	Validate suitability models for eastern streams; revise model use for warmwater streams; test relationship of habitat and fish production; assess long-term changes in fish populations resulting from flow regulation; are instream flows a limiting factor to fish
Washington	Enacted	Minimum Water Flows and Levels Act (1969); Water Resources Act of 1971	Effective but controversial	WA Dept. of Ecology; WA Dept. of Game; WA Dept. Fisheries	IFIM; USGS Toe-Width; Tennant	Methods for high gradient streams; improved salmonid habitat preference curves; verification of habitat preference curves; need big river flow models; test fish production vs. habitat flow
West Virginia	None	N/A	N/A	WV DNR Wildlife Div.	IFIM; Aquatic Baseflow (ABF); Tennant	More species-specific biological information; evaluate fluctuating flows
Wisconsin	None (related legislation)	N/A	N/A (Related legislation effective)	WI DNR	IFIM; hydraulic models; habitat computation using Reynold's numbers; judgment; water quality	Regional life history information; life history information for invertebrates; more hydrological data and gauging stations; user friendly IFIM software
Wyoming	None (attempted but failed in 1985)	N/A	N/A	WY Game and Fish Dept.; WY State Conserv. Comm.	IFIM; IFG-4; IFG-1; Habitat Quality Index (HQI); Tennant	Validation of IFIM; winter flow needs; flushing flows; verification of flow recommendations
CANADA Alberta	None (related legislation)	N/A	N/A	AB Fish and Wildlife Div.; AB Environ.	Tennant; IFIM	More acceptable biological curves; better computer programs; hydraulic [illegible] data for use in ice-covered conditions; public relations to raise awareness of instream flows
British Columbia	None (related legislation)	N/A	Less than 0.5% of water allocated for IF use	BC Ministry of Environ.: Water Mgt. Branch; Fish and Wildlife Branch	Tennant; Wetted perimeter; IFIM	Calibrate MT Method to BC; validate flow–fish population relation; develop methods to assess recreational needs; multidisciplinary approach to IF studies; validate habitat models
Manitoba	None (related legislation)	N/A	N/A	Government of MB Water Res. Branch	IFIM; Tennant; correlate year class to spawning flow	Optimum flows for overwintering fish and egg incubation; maximum and minimum flows for spawning; relationship of flow to water quality
New Brunswick	None (related legislation)	N/A	N/A	NB Dept. of Municipal Affairs and Environ.	25% of Avg. Ann. Flow (Tennant); IFIM	Entire range of instream flow research needed
Northwest Territories	None (related legislation)	N/A	N/A	Dept. Renewable Res.	N/A	Review of instream flow related research

Table 1. (continued)

State/province	Status of IF legislation	Title of IF legislation	Effectiveness of legislation	Agencies administering IF	IF field methods used	Major IF research needs
Nova Scotia	None (related legislation)	N/A	N/A	NS Dept. of Environ.	Tennant, IFIM	Determine if habitat changes influence fish populations, validate hydraulic models, assess salmonid overwintering requirements, assess effects of short-term flow reductions
Newfoundland /Labrador	None	N/A	N/A	Dept. of Environ.	Tennant, WSP, IFIM	Examine production vs. flow relationships, develop habitat preference curves for local species, assess river geomorphometry as it relates to flow change
Ontario	None (related legislation: Canada Fisheries Act)	N/A	N/A	ON Ministry of Nat. Res. Ministry of Environ.	Use various methods—none preferred, have used IFIM, water quality models	Develop data base of flow use and cross-sectional area for important habitats, assess relationship between life stages and flows, evaluate IF methods for Canada, adapt IF methods for other uses, develop methods to evaluate water quality problems, integrate risk assessment into water quality studies

the West is primarily based on the doctrine of prior appropriation which states, "first in time is first in right", whereas the riparian doctrine predominates in the East. The prior appropriation doctrine has put a premium on unappropriated water in western streams. Three western states, Arizona, New Mexico, and Wyoming noted that legislation had been introduced for consideration, but had failed to pass (note: Wyoming passed IF legislation in 1986).

Six eastern states reported having a formal IF protection statute. In Mississippi, New Hampshire, and Vermont legislation had been introduced but failed to pass; in Kentucky, Missouri, South Dakota, and Virginia legislation was pending as of 1986. The importance of IFs is apparently becoming widely recognized.

Most respondents indicated the effectiveness of newly enacted legislation was largely "untested." States that reported legislation as "effective" include Kansas, Minnesota, Montana, and Washington. Even among these, problems related to budget, overappropriation, and controversy were cited. Passage of formal legislation does not guarantee preservation of fishery resources, although it is an important and necessary first step.

In Canada, formal IF legislation was generally lacking. However, the majority of the provinces noted that related legislation existed that can be used for protecting instream resources. In particular, the Canada Fisheries Act, in force in all of Canada, specifies that the Ministry of Fisheries and Oceans can designate a sufficient flow to protect fishery resources. In Alberta, Saskatchewan, Manitoba, and Ontario (4 of 10 provinces) execution of the act has been delegated to the province. Where it has been applied, it has been effective. An abundance of water and a historical low demand for the resource were cited as reasons for lack of IF legislation in Newfoundland. Indeed, most streams and rivers in Canada remain free-flowing and unregulated. Thus, competition for a limited water resource has not become as intense as in the United States. Canada has the enviable position of having the opportunity to adopt instream flow legislation and reserve instream flows before intense resource competition develops.

Use of Instream Flow Methodology

Respondents reported a wide array of methods for determining instream flows (Fig. 2), ranging from office methods such as the Tennant (1975) and Aquatic Baseflow (ABF; USFWS 1981) techniques which are based largely on historical flow records, to field/office methods such as the Instream Flow Incremental Methodology (IFIM; Bovee 1982) and the Habitat Quality Index

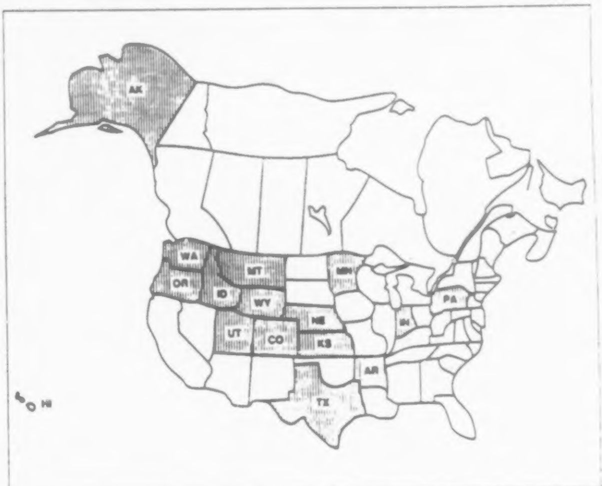

Figure 1. States having formal instream flow legislation as of 1986.

(HQI; Binns and Eiserman 1979) in which the collection of detailed field data is integral to making flow recommendations. We refer the reader to the summary review reports of Wesche and Rechard (1980), Stalnaker and Arnette (1976), EA Engineering, Science, and Technology, Inc. (1986), and the proceedings of the Symposium on Instream Flow Needs (Orsborn and Allman eds. 1976), for detailed information on specific methods.

The most commonly used instream flow method is the IFIM. This method was cited as being used in 38 states or provinces, and was listed by 24 respondents as the preferred method. In California, Washington, and Idaho it is the required technique for conducting instream flow studies. The IFIM and its component computer software package, the Physical Habitat Simulation (PHABSIM) system, were derived in the late 1970s by the FWS Instream Flow Group (IFG) (now the Instream Flow and Aquatic Systems Group), in Fort Collins, Colorado. The method was a modification of earlier techniques (Waters 1976; Collings 1972), which provided incremental assessments of effects of flow reduction on fish habitat. Unlike other methodologies, the IFIM is an interdisciplinary process used to evaluate the effects of individual or combined flows on habitat availability for individual or combinations of species and life phases. The most commonly practiced IFIM technique is to collect physical and biological data following procedures that allow for analyses using the PHABSIM, a series of computer programs. The IFIM provides the most detailed and graphic approach for assessing effects of water resource developments on fish habitat. Due to its utility, the many reports and information papers produced by the IFG since 1976, and the IFG short-course offerings of "hands-on" training, it is not surprising that the IFIM is so widely applied today.

The Tennant Method is frequently used in selected states and provinces. Twelve respondents listed the method as commonly used, usually as an office technique for providing reconnaissance-level evaluations of instream flow requirements. In Alaska, New Jersey, and North Dakota, the Tennant Method or a modification thereof (Estes 1987) was cited as the primary technique for deriving instream flow recommendations. In North Dakota, it is the only method recognized.

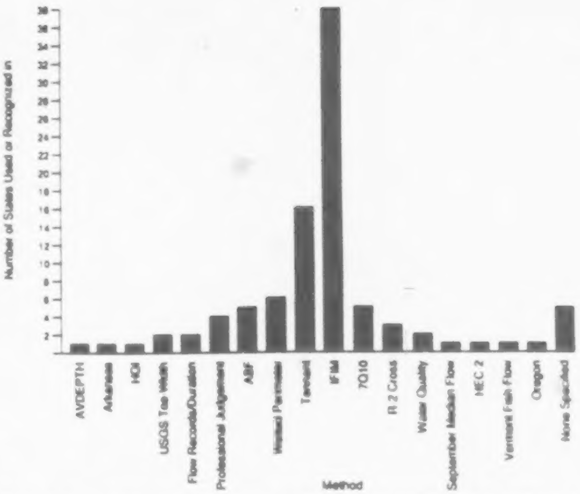

Figure 2. Instream flow methods presently applied in North American and their relative frequency of use. For a description of methods, see Wesche and Rechard (1980), and EA Engineering, Science, and Technology, Inc. (1986).

Other commonly applied methods are the Wetted Perimeter (WP), the ABF, and the 7Q10. The WP method was listed as the primary technique in Michigan and Montana, the latter requiring its use for making instream flow recommendations. The ABF technique was developed for and is used primarily in New England. The 7Q10 method (defined as the flow which is greater than the 7-day 10-year low flow event) is generally applied when instream water quality problems exist. Eastern and southeastern states have used it most frequently (Fig. 2).

Professional judgment was also cited as a viable and currently used approach. We find this encouraging and hope that the application of all methodologies, no matter how complex or sophisticated, leaves room for professional judgment in formulating recommendations.

Several respondents noted that specific methods for quantifying IF requirements have not been designated. Minnesota, for example, was reviewing various methods for applicability to their stream systems. Other states in this category lack a general instream flow statute, for example, Nevada and New Mexico. More states and provinces will probably adopt or require specific methods for conducting IF investigations. This would insure that all studies are conducted and flow recommendations derived using the same techniques. However, there are risks in requiring a set method, the major one being that new or revised methods may be developed which are more appropriate or valid than those previously required. In addition, the complexity and costs for application of a "required" method, may, under some circumstances and for some projects, be more than necessary for assessing flow regulation effects on the aquatic resource, as determined by less rigorous methods. Thus, it may be more appropriate to establish guidelines for determining whether an analysis is valid as opposed to specifying which analysis is performed.

Needs for Instream Flow Research

The major areas of instream flow research cited by respondents as needed are listed on the next page in order of decreasing frequency (the number of times each area was listed as a primary or secondary need respectively, is shown in parenthesis)

- Need more species habitat information and preference curves developed for local areas, including curves for threatened and endangered (T&E) species, warmwater species, and regional curves developed for eastern, southeastern, and southwestern species (11.4).
- Develop new methods or techniques for determining flow requirements for different conditions. Respondents indicated that specific methods are needed for assessing instream flow problems: in small watersheds and high gradient streams, to assess peaking impacts; for determining channel maintenance flows; for assessing effects of short term flow fluctuations; for sport fishing and recreational needs; to determine incubation flows and overwintering flows; and for planning purposes (9.10).
- Validate and test the IFIM to determine if Weighted Usable Area (WUA) does relate to fish production (5.1).
- Determine if a relationship exists between Flow: Habitat: Fish Production and define the relationship (5.10).
- Validate and test the existing Habitat Suitability Index Models (HSI) and modify to local conditions (3.2).
- Develop more hydrologic and water resource data throughout the state or province (2.2).
- Develop new and validate existing water quality models (1.5).
- Modify and adapt the IFIM to local conditions (e.g., high gradient streams or large, deep rivers) (0.3).
- Validate existing and develop new hydraulic models (0.3).
- Determine flushing flow requirements for streams (0.3).
- Need more fish life history information (0.2).
- Need more funding support and staff to handle IF issues (0.1).
- Develop public awareness programs explaining the benefits of IF uses (0.1).
- Need to assess the adequacy of existing flows for maintenance of the fishery resource (0.1).

With regard to the most frequently cited research need, preference curves are required for application of the IFIM, and the frequency of interest in this research need relates to the widespread use of the IFIM technique. The development of appropriate curves for use with the IFIM PHABSIM is often the most time-consuming and controversial aspect of its application. Most respondents citing this need were from the eastern and midwestern portions of North America, including Georgia, Louisiana, Massachusetts, Minnesota, Mississippi, New Hampshire, North Carolina, New York, South Dakota, Vermont, and Virginia, where the IFIM PHABSIM has only recently been applied. Two western states, Arizona and New Mexico, cited the need for development of curves for T&E species.

There is still an apparent need for the development of new methods to address specific IF problems. Nineteen respondents cited this need, listing several areas of application. One area receiving little attention to date is that of assessing recreational IF needs. This includes sport fishing opportunities, rafting and canoeing, fish and wildlife viewing, and other recreation associated with riverine systems. To date, essentially all methods have focused on IF requirements from a biological perspective. In the future, methods will be needed for integrating sociological needs into the flow-need assessment process.

The validation of the relationship between flow, habitat, and fish production was cited as a research need 21 times, 6 of which specifically mentioned the validation of the IFIM PHABSIM. All quantitative IF methods in use are based on determining flows needed to meet some quantity of habitat assumed to be crucial for sustaining fish populations. Unfortunately, the linkage establishing a relationship between habitat and fish populations has not been adequately established. Thus, flows necessary for habitat preservation may be different from flows required for sustaining the fish population. Interestingly, it has been a decade since Wesche (1980) noted the fallacy in the then "state of the art" IF methods that no available methodology addresses the question of potential biological consequences. This same deficiency remains today. Although some research has attempted to address this issue, (e.g., Scott and Shirvell 1987; Conder and Annear 1987; Orth and Maughan 1982) the results have been inconclusive, narrowly useful, or controversial in interpretation. Clearly, as indicated by the number of respondents, this area of research should be intensified in the future.

Comparison with 1981 Survey Results

Since 1981, an additional three states have enacted formal IF legislation: Hawaii (limited to certain islands), Utah, and Texas. Wyoming, Arizona, and New Mexico have made repeated unsuccessful attempts to pass IF legislation during 1981–1986; Wyoming has since enacted such legislation.

As in 1986, the 1981 respondents emphasized the need to collect local data on spawning, incubation, rearing, and fish-passage habitat data to refine or develop stream-specific habitat suitability curves. They also stressed the need to improve and simplify procedures for evaluating aquatic habitat alterations and a need to share information and procedures. Some respondents stressed the importance of quantifying federal reserve water rights linked to federal lands (e.g., national forests and lands administered by the Bureau of Land Management). The methods used in 1981 were similar to those employed in 1986 and ranged from IFIM to professional judgment, with the selection of a given method based on the nature of the problem, time, financial and logistical constraints, and the reliability and legal acceptability of the method.

The 1986 survey of instream flow issues reveals increasing emphasis on preserving aquatic resources in North America's rivers. It should be useful not only for comparing present programs among states or provinces, but also for prioritizing research efforts among those areas perceived as most needed and with the widest application. A similar survey in about 5 years (1992) might usefully update the status of instream flow activities in North America.

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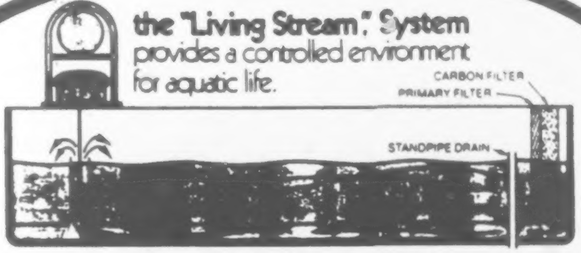

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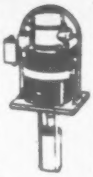

Attachment E

INSTREAM FLOW ASSESSMENT METHODOLOGY DEVELOPMENT FOR WARMWATER STREAMS IN THE SOUTHEAST

Research and Development Plan Summary

The State fish and wildlife agencies and the U.S. Fish and Wildlife Service (Service) are limited in their ability to negotiate protective measures and develop mitigation plans for fish in Southeastern warmwater streams because of the lack of proven biologically-based methodologies. The lack of such proven methodologies may cause regulatory delays. Between now and the year 2000, numerous hydroelectric, navigation, and flood control projects will be proposed for construction in the Southeastern United States, and over 14 existing projects are scheduled for relicensing. Warmwater streams in this region provide numerous recreational oportunities and are important habitat for many fish species, including over 100 aquatic species that are threatened, endangered, or of special concern.

For the most part, established and validated habitat criteria for fish population response models for assessing impacts and developing management prescriptions on Southeastern streams are unavailable. The Instream Flow Incremental Methodology (IFIM) developed by the Service, has been widely applied to trout and salmon populations in coldwater streams. It is considered the "state-of-the-art" for impact evaluations and the development of coldwater fish management prescriptions. Similar development and testing of techniques for predicting impacts to habitat for warmwater fish species have not occurred.

To expedite the regulatory process in the future, model testing and modification of existing riverine hydrologic, hydraulic, and temperature models for application in warmwater streams is needed. Also, development of new fish species habitat response models specific to the Southeastern United States is needed. And, habitat simulation and fish population monitoring studies are needed to validate the underlying concepts of these habitat models by monitoring the response of warmwater fish populations to changes in stream flow and habitat conditions.

As proposed here, major research and development studies will be carried out on streams in Alabama (e.g., Alabama, Tallapoosa, Escambia, and Chocthawhatchee River systems), Tennessee (Cumberland River systems), Arkansas, Georgia, North Carolina, and South Carolina; and possibly Mississippi, Louisiana, and Florida as a collaborative effort between the National Ecology Research Center (NERC), the State agencies, universities, and Cooperative Fish and Wildlife Research Units (Coops). Specifically, stream habitat requirements and habitat suitability models will be developed on site for warmwater stream fishes (e.g., basses, sunfish, catfish, minnows). Also, extensive transferability tests involving the same or similar species and habitat suitability models will be accomplished in divergent regions of the Southeast through the Coops in the region. All of these efforts will be coordinated by the NERC field station established at Auburn University, Alabama, in consultation and cooperation with the State resource agencies.

BUDGET: $300-600K/year for years 1-3 and $800-900K/year for years 4-10.

INSTREAM FLOW ASSESSMENT METHODOLOGY DEVELOPMENT FOR WARMWATER STREAMS IN THE SOUTHEAST

RESEARCH AND DEVELOPMENT PLAN

BACKGROUND and JUSTIFICATION

Warmwater streams in the Southeastern portion of the United States (Southeast) provide many valuable uses including navigation routes, municipal and industrial water supplies, agricultural irrigation, and hydropower. During 1980, over 5 million sport fishermen spent over $1 billion for fishing in rivers and streams in a 15-State area of the Southeast (U.S. Dept. Interior 1982). These streams and their adjoining floodplain wetlands provide additional recreational opportunities to a variety of users and provide critical habitat for numerous recreationally and commercially important fishes and other aquatic organisms and assemblages, including about 100 species that are threatened, endangered, or presently being considered for listing. The quality and quantity of this critical habitat are a result of hydrologic regimes, which, if altered (e.g., by reservoir operations, by water withdrawals or diversions) will result in a change in habitat suitability for the aquatic organisms.

Historically, water has been relatively abundant in the southeast, but in recent years increased water use required for support of population growth and expanding development and recreation needs have brought about a corresponding demand for stream corridor water use and management through storage and diversion, and groundwater pumping. As a result, natural resource agencies in the Southeast are faced with increasing pressure for recommending and defending instream flow regimes for providing warmwater fisheries and flowing water-based recreation in streams. Surveys and workshops conducted by the National Ecology Research Center (Center) during 1987-1988 in U.S. Fish and Wildlife Service (Service) Region 4 and other Southeastern States show that the most prominent warmwater stream impact issues expected in the area over the next 50 years are instream flow alterations associated with hydropower development, the relicensing of existing hydro facilities, flood control projects, and water transportation and navigation projects. Within the next 10 years, numerous hydroelectric, navigation, and flood control projects are scheduled for construction in the Southeast and at least 14 major projects in the area are scheduled for relicensing during this period.

Specific water development threats to riverine species in the Southeast include rapid fluctuation in flows, periodic dewatering and major streamflow reductions, all of which may result in severe, long-term impacts on fish and their habitat. The States, the U.S. Fish and Wildlife Service, and other Federal Agencies have responsibilities for reviewing and commenting on impacts of proposed activities that may affect fish and wildlife resources associated with rivers and streams and providing management prescriptions and mitigation plans (e.g., the Fish and Wildlife Coordination Act, the River and Harbours Act, the Clean Water Act, and in other legislation and various Presidential Orders).

The Service has developed the Instream Flow Incremental Methodology (Stalnaker 1979; Bayha 1978; Bovee 1982) which has been widely applied to coldwater stream trout and salmon populations in the west, but no similar regionally acceptable approach to warmwater stream habitat assessment in the Southeast is presently available. Many biologists in the Southeast perceive warmwater streams and their fish and aquatic invertebrate assemblages to be fundamentally different from that of coldwater streams. Consequently, there is hesitancy for untested and unqualified use of IFIM in warmwater streams. The great species diversity (i.e., a huge number of species present) and high productivity of warmwater streams have been identitied as the major distinctive features when compared with coldwater streams in a recent review of significant stream research (Bain 1988). Fish species diversity in the Southeast is clearly greater than any other region of the United States (McAllister 1986). The Tennessee River drainage has over 200 fish species (Starnes and Etnier 1986) and the Mobile River Drainage has at least 157 species (Swift et al. 1986). In terms of geology and ecoregions, the Southeast is equally as diverse.

The National Ecology Research Center (Center) has established a small Field Station at Auburn University, Alabama during 1989. A Cooperative Agreement between the U.S. Fish and Wildlife Service and Auburn University was developed to facilitate the establishment of the Field Station and the cooperation of the Service and the University in the conduct of instream flow research, and to provide for limited interchange of personnel, space, facilities, and equipment. A modest instream flow research effort was initiated in the Southeast through collaborative agreements between the Center and the Alabama Cooperative Fish and Wildlife Research Unit and the Tennessee Cooperative Fishery Research Unit. Study plans have been developed and a two-person staff is being located at the Field Station. Plans call for expanding collaborative research with Auburn University, the Arkansas, Georgia, Mississippi, North Carolina, South Carolina, Florida, and Louisiana Cooperative Fish and Wildlife Research Units, State agencies, and other universities, as high priority research needs are identified and funds allow.

Study Goals

The goal of this southeastern research effort is to develop evaluation methods for stream-dwelling aquatic organisms and their habitats with emphasis upon fishes, and provide basic ecological data to decisionmakers. Specifically, the research station will focus upon developing decision support methods for evaluating the effects of reservoir operations and water development activities, including control structures, on downstream fishery resources and their habitats as well as instream flow models for management of warmwater fish habitats. Focus will be upon fish species life requisites. Actions will be directed toward:

1. Developing scientifically credible fish assemblage habitat models,
2. Developing procedures for quantitatively establishing reservoir release patterns and management prescriptions with the purpose of maintaining instream flows to meet downstream fisheries carrying capacity goals, and
3. Conducting longer term riverine fishery population studies for testing and validating habitat simulation modeling techniques as predictors of fish population responses to flow manipulations.

PROCEDURE

This goal will be pursued through: (a) field research by the staff of the NERC-Auburn Field Station; (b) collaboration with Auburn University staff;

(c) collaborative work between the Center and the Cooperative Fish and Wildlife Research Units at Auburn and other universities in the Southeast; (d) seeking a suitable site and funding for constructing an experimental facility designed for controlling flows through a series of stream channels; and (e) research below hydro-peaking facilities.

FIELD STATION STAFF

Center Field Station staff will focus on: (1) research to develop information on habitat suitability for warmwater fish and invertebrate species dependent upon flowing water; (2) the development and testing of models useful for the assessment of instream flow alterations; and (3) testing of fish population response to controlled flow regimes. Some of the primary activities to be performed by the Station include the following:

1. Design and conduct studies focused on warmwater species habitat criteria development and verification in selected experimental streams.
2. Develop Research Work Orders (RWO) with Southeastern Cooperative Fish and Wildlife Research Units designed to accomplish Station objectives. Oversee RWO's to assure compliance of schedules and output quality.
3. Collaborate with and transfer data and information to the Center's Aquatic Systems Modeling Section in Fort Collins, Colorado, for development of models that use empirically developed habitat/flow relationships for simulating downstream effects of proposed reservoir releases and other water control structures.
4. Develop and maintain liaison with Service and State offices in the Southeast to support instream flow research goals of the Service.
5. Support and assist the Center in developing training courses, and conducting training for State and Service field office personnel.

6. Provide assistance to State, and FWS personnel and coordinate technical assistance by the Aquatic Systems Branch in Fort Collins, Colorado, to U.S. Fish and Wildlife Service Region 4, in the practical applications of IFIM to projects being evaluated (e.g., the Tallapoosa and Saluda Rivers).
7. Participate in other regional scientific and technology transfer activities through task forces, workshops, lectures, publications, and general assistance.

COOPERATIVE FISH AND WILDLIFE RESEARCH

Research Work Orders (RWO) between the National Ecology Research Center and Cooperative Fish and Wildlife Research Units (Coops) will focus on: (1) the development of new habitat/flow relations specific to fish species assemblages and life requisites in Southeastern streams; (2) the testing of selected hypotheses related to responses of warmwater fish and invertebrates to various flow regimes; and (3) the application of the Instream Flow Incremental Methodology (IFIM) to warmwater streams in the southeast. Work Orders with the Alabama Coop and one with the Tennessee Coop Unit were initiated in 1988 and are ongoing in 1989. Due to the proximity of the Field Station to Auburn University, collaboration with the Alabama Coop Unit and University staff is proposed to become semi-permanent in support of objectives of the Station. Additional RWO's developed with other Coop Units (e.g., Arkansas, Georgia, Mississippi, North Carolina and South Carolina, Florida and Louisiana) will be based upon instream flow research needs unique to local or specific areas and resources available to the Center.

PROPOSED RESEARCH AND DEVELOPMENT TASKS

1. Fish Habitat-Streamflow Relations. Warmwater fish habitat requirements research initiated in 1988 through the RWO with the Alabama Coop is focusing on determining relations among warmwater stream habitats, flow regimes, and fish communities. The information will be used to develop new or modified fish response models for applications in warmwater streams in the Southeast. A model for warmwater stream habitats will require some means of simplifying the fish community complexity by reducing the large number of species to relatively few types. The Alabama Coop study will evaluate aggregation of species into groups or guilds that represent the essence of the relationships among stream habitat, flow regime, and fish communities. Evidence suggesting that this approach has merit was presented by Bain (1988) during the initial phase of the RWO.

2. Freshwater Mussel Habitat Requirements. Research through the RWO with the Tennessee Coop is focusing on application of the physical habitat suitability concept of the Instream Flow Incremental Methodology for determining stream habitat requirements for species of common and endangered freshwater mussels and for the fish species that are host to larvae of the mussels in streams of the Upper Cumberland River Basin. The Southeastern United States contains the most diverse assemblage of freshwater mussels in the world. Several species have become extinct and populations of other species have declined precipitously in recent decades. The lack of detailed knowledge of their habitat requirements hampers any effort to protect and manage mussel populations. Consequently, resource

agencies cannot now provide or defend recommendations for flow releases necessary to protect mussel populations from water development projects. Further, the continued existence of most populations of freshwater mussels is dependent upon the presence of their host species, and any preservation requirements of mussels must also include the flow-dependent habitat requirements of their host fish species.

3. General Transferability of Fish Species Habitat Suitability Models. Based on the availability of funds to the National Ecology Research Center, additional instream flow research supportive of the stated goal will be carried out by Southeastern Coop Units, universities, and other State or Federal agencies via research work orders. This additional research would focus on needs specific or unique to a particular species or group of species, and to particular stream types or geographical areas within the Southeast.

4. Field Station Research Directed Toward Diverse Regional Conditions. Examples of field research needs tentatively identified but not funded or initiated include model development useful for predicting and evaluating the quantity and quality of fish habitat related to: (a) habitat sampling techniques for simulation modeling applicable to large, turbid rivers; (b) various water release regimes from low gradient reservoirs in Mississippi; (c) instream flow alterations in presently non-regulated, low gradient, turbid streams in eastern Arkansas; (d) altered instream flow in Arkansas headwater streams located in U.S. national forests and containing highly valued fish populations; (e) In Georgia and some other

Southeastern States, research is needed to determine and evaluate the effects of the 7-day Q_{10} water flow standard implemented on some streams (the lowest flow that occurs for 7 consecutive days in a 10-year period), and to evaluate the effects of water temperature changes associated with groundwater withdrawal and instream flow alterations on striped bass and other anadromous species; and (f) the use of weirs, check dams, or other structures to regulate streamflows in off-channel areas of river corridors.

5. Construction and maintenance of experimental stream channels. Research on the response of fish populations to manipulated stream flow regimes has been attempted several times either in artificially constructed channels adjacent to river systems or in the immediate tail waters below reservoirs. Two of the more ambitious experimental stream systems have been described in the literature: (1) Five experimental channels were constructed in New Zealand along with Waitaki River, each experimental channel was approximately 100 meters long and 3 meters wide, and conveyed flows up to 125 liters per second (Rimmer 1985, Irvine et al. 1987); and (2) on the Grande Ronde River, Oregon, two concrete lined channels six meters by 64 meters were constructed side by side and capable or carrying flows of up to 20 cubic feet per second (White, et al. 1980). Both studies utilized yearling rainbow trout stocked in these experimental channels at fairly low numbers (one to two hundred fish per channel); one channel was maintained as a control; and experimental reductions of 25% to 75% of the stream flow were evaluated by observing the behavior of the fish, the habitats utilized (pools, runs, riffles) and the emigration downstream out of the channels following reduced flows. Results suggest that larger

channels capable of holding greater numbers of fish are necessary for valid statistical comparisons of flow alterations. Recent discussion by stream ecologists have emphasized the need for such experimental control over stream flow conditions as being essential before predictive statements can be made about anticipated fish population responses (Morehart, et al. 1980?). No such experimental work has been done on warmwater streams in the Southeastern United States.

Since Southeastern fish fauna is complex, involving many more species than the coldwater fish fauna studied in the previous experimental channels, it is desirable to have fairly large experimental stream channels capable of sustaining fish populations of 300 to 500 individual fishes and the ability to control flows anywhere within the range of 1 to 50 cubic feet per second at a minimum. Such controlled experimental streams should allow study of species interactions and longer term seasonal or annual fish behavior, movement, and survival. It is proposed that potential sites be identified and evaluated in conjunction with State fish and wildlife agencies, U.S. Forest Service, U.S. Fish and Wildlife Service, Field Offices, etc., with design and construction funding being sought and appropriate cooperative agreements worked out during 1990 and 1991. Potential sites in Alabama, Georgia, and Tennessee will be investigated at a minimum. If construction could be initiated in late 1991 or 1992, the experiments would commence in 1993.

The proposed work will involve three steps:

(a) Site selection and design of experimental channels -- years 1 and 2

(b) Construction and maintenance -- years 3 - 10

(c) Controlled experiments -- years 4 - 10

6. Fish Behavior Studies in Rapidly Fluctuating Flow Zones. Many existing hydro-projects are presently operating under a peaking mode which may result in downstream flows ranging from near zero up to 2,000 cubic feet per second or more on a daily basis. Those which must be relicensed before the year 2000 are likely to consider peaking operation modes as well. Field observations and model testing and development are needed before accurate assessments can be made of the impacts of rapid flow fluctuations to fish populations in reservoir tailwaters. The stranding and displacement of fish (especially young fish) is related to both the base flow and the generation flow, as well as the rate of change between the two. Mechanisms relating flow fluctuations to fish recruitment and population carrying capacity must be known in order to better manage both fisheries resources and power production. Research to develop models applicable to this situation must be carried out using specialized gear (SCUBA diving, underwater cameras, television, etc.) in extremely dangerous tailwater reaches below existing hydropeaking reservoirs. This will require construction of specialized equipment and the use of experienced personnel. The Center has been involved with such model development on Western coldwater rivers, and proposes to hire experienced personnel to conduct this research in the Southeast after the initial stream habitat requirements are known from studies completed under tasks 1, 2, and 3 above.

Resources

Table 1 presents an estimate of the funding (in thousands of dollars) and personnel (as full-time equivalents, FTE's) required to accomplish research and development efforts outlined above. The costs are estimated in 1989 dollars. Personnel are Service employees stationed at the Auburn Field Station only. Task numbers in Table 1 are identical to numbers above and are in order of priority if only partial funding is achieved.

Table 1. Estimated budget (in thousands of dollars) for Southeastern Instream Flow Methodology Research and Development (assumes a 4% annual increase for inflation)

Task No.	1988.00	1989.00	1990.00	1991.00	1992.00	1993.00	1994.00	1995.00	1996.00	1997.00	1998.00	1999.00	2000.00	TOTAL
	BUDGET ($000)													
1.	16.00	80.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	1086.00
2.	25.00	35.00	35.00	35.00	50.00	50.00	50.00	**	**	**	**	**	**	280.00
3.	**	**	**	200.00	200.00	250.00	250.00	275.00	275.00	275.00	300.00	300.00	300.00	2625.00
4.	71.00 (1.0)	185.00 (2.0)	145.00 (2.0)	150.80 (2.0)	156.83 (2.0)	163.11 (2.0)	169.63 (2.0)	176.41 (2.0)	183.47 (2.0)	190.81 (2.0)	198.44 (2.0)	206.38 (2.0)	214.64 (2.0)	2211.52
5a.	**	**	30.00	130.00	**	**	**	**	**	**	**	**	**	160.00
5b.	**	**	**	**	400.00	50.00	52.00	54.08	56.24	58.49	60.83	63.27	65.80	860.71
5c.	**	**	**	**	**	100.00 (1.0)	104.00 (1.0)	108.16 (1.0)	112.49 (1.0)	116.99 (1.0)	121.67 (1.0)	126.53 (1.0)	131.59 (1.0)	921.42
6.	**	**	**	**	**	**	100.00 (2.0)	104.00 (2.0)	108.16 (2.0)	112.49 (2.0)	116.99 (2.0)	121.67 (2.0)	126.53 (2.0)	789.83
TOTALS	1) 112.00	2) 300.00	3) 300.00	3) 605.80	3) 896.83	3) 703.11	3) 815.63	3) 807.65	3) 825.36	3) 843.78	3) 887.93	3) 907.84	3) 928.56	8934.48
FTE's	(1.0)	(2.0)	(2.0)	(2.0)	(3.0)	(3.0)	(3.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	

1) = FWS base-funded
2) = Special budget initiative
3) = Budget needs
** = None planned

I. CALENDAR OF MAJOR EVENTS SCHEDULED UNDER CURRENT FUNDING

1.	Warmwater Stream Fish Communities	1988-1993
	a. Develop hypotheses and design for field studies	Oct 1988 (completed)
	b. Literature Review published	Jul 1989
	c. Quantify fish and invertebrate community responses to flow regime changes	Sep 1990
	d. Methodology for assessing impacts of streamflow regulation developed	Sep 1993
2.	Develop Habitat Criteria for Mussels	1988-1991
	a. Literature review published	Jul 1989
	b. Criteria and models published	Sep 1991
3.	a. Cooperative Agreement, FWS/Auburn, signed	Mar 1989
	b. 5-year strategic research plan for Southeast approved	Jul 1989
	c. Field Station staffed, two people	Jul 1989
	d. Field Research initiated, Field Station staff	Aug 1989
	e. Workshop/training course, instream flow assessment methodology - Southeast methodology - Southeast	FY's 90, 91, 92, 93
	f. Study Plan Review/Update	Annually

II. CALENDAR OF MAJOR EVENTS ASSUMING ADDITIONAL FUNDING ABOVE FY 1989 LEVEL

4. Area specific or unique fish habitat suitability models developed (e.g., Arkansas, Mississippi-Louisiana, Georgia-Florida, North Carolina-South Carolina)	1995
5. Experimental stream channel research facility	
a. Site selection and facility design	1991
b. Construction completed	1993
c. Controlled experiments initiated	1994
6. Rapid flow assessment methodology developed, tested, and workshop/training course offered	FY's 97, 98, 99

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New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233- 4756

Thomas C. Jorling
Commissioner

November 1, 1989

The Honorable Bill Bradley
United States Senate
731 Senate Hart Office Building
Constitution Ave. & 2nd St. NE
Washington, DC 20510

Dear Senator Bradley:

In response to your request of October 18, 1989, attached as Attachment A are New York State Department of Environmental Conservation responses to your questions on hydropower relicensing technical information needs concerning instream flow studies and their interpretation. Attachment B is a technical guidance memorandum developed by the Bureau of Environmental Protection for selection of applicable instream flow studies. Coincidentally, the latest issue of Fisheries (Vol 14, No. 5), the bulletin of the American Fisheries Society, included an article by Berton L. Lamb of the USFWS National Ecology Center on use of the Instream Flow Incremental Methodology. This article has a bearing on the questions you sent me. A copy of that article is attached for your use.

Thank you for the opportunity to respond to these important questions.

Sincerely,

James R. Colquhoun
Chief
Bureau of Environmental Protection

Attachment

JRC/JDS/fb
bcc: L. Marsh
M. MacKenzie
B. Catone
K. Silliman
R. Binnewies
K. Wich
L. Concra

ATTACHMENT A

NYSDEC Staff Response to Senator Bumpers' questions
transmitted from Senator Bradley to Mr. Colquhoun of NYSDEC
by letter on October 17, 1989.

Question #1: Is there not a commonly accepted methodology for determining in-stream flow requirements?

Response:

The determination of an instream or base flow requirement can be a complex and difficult process depending upon the area of concern. Therefore, there is no one commonly accepted methodology. Some concerns, such as those associated with the maintenance of natural resources and water quality, employ more objective methodologies. Others, involving certain types of recreational activities (whitewater boating, swimming, tubing, etc.) and aesthetics, rely on more subjective or judgemental approaches.

In the case of the protection and maintenance of natural resources, a wide variety of methodologies are available to decision-makers in determining the base flow requirement. These methodologies range from the very simple wetted perimeter approach to the more involved instream flow incremental methodology (IFIM). The selection of the appropriate methodology depends on such elements as the issues being considered, the amount of time and funding available, the significance of the proposed or existing impacts, and the amount of information already available.

In New York, the Department of Environmental Conservation has tended towards the more objective IFIM as the tool to assist with base flow determinations associated with hydropower licensing actions (see Attachment B). In doing so, the agency makes every effort with applicants to ensure that an agreed-to common information base will be available to determine an optimum base flow for the stated natural resource management objectives. In addition to this information, the following elements are also factored into the decision-making process:

- hydrological and water quality (e.g. temperature and dissolved oxygen) records for the watershed,
- changes in any impoundment fluctuations resulting from the maintenance of a base flow and any attendant impacts to fish and wildlife and their habitat,
- base flow requirements of other competing uses, and
- cumulative impacts and comprehensive watershed management plans.

Question #2: If not, is this an area where further research is needed?

Response:

There are several areas where further research is needed, most notably:

- additional assessments of base flow effectiveness in accomplishing natural resource management objectives,
- development of more reliable habitat suitability indices for fish and wildlife on both a regional and seasonal perspective, and
- development of more objective criteria for those concerns which currently rely on subjective judgements to ascertain base flow requirements. For example, the criteria currently employed to determine the flow requirements for whitewater activities and other water-based recreational activities could be more objectively determined.

Question #3: Would a federally sponsored program be appropriate?

Response:

At the present time, the National Ecological Research Center of the United States Fish and Wildlife Service located at Fort Collins, Colorado serves as the nationwide center of excellence for base flow concerns and analytical methodologies. We recommend that additional funding be allocated to this Center to address the previously identified areas of research.

Question #4: What other suggestions do you have to prevent conflicts in this area?

Response:

In order to avoid conflicts in the area of base flow concerns it is important that the principles be followed by the involved parties, as follows:

- The objectives of each party should be clearly stated and understood by all other parties.
- The standards, criteria, methodologies being proposed by each party should be as objective as possible and are agreed to by all involved parties.
- The hydrological records, project operations (existing or proposed), water quality and natural resource information should be made available to all parties and, where needed, additional information should be obtained prior to the decision on the base flow needs.

The base flow considerations for natural resources, recreation, and aesthetics should not be based on a strict cost-benefit analysis (e.g. recreation vs. energy) but rather should include the intangible benefits associated with effective flow management.

NYSDEC
Bureau of Env. Prot.
November 1, 1989

ATTACHMENT B

Guidelines for the Selection of Target Organisms to be Employed in A Minimum Flow Study

The determination of a base or minimum streamflow requirement for the protection and maintenance of specific fish species, entire aquatic communities, or an entire ecosystem is a difficult, time-consuming process. Aquatic ecosystems are generally comprised of a large number of species whose habitat concerns should be considered. In an effort to insure that such determinations are conducted in a timely and effective manner, the Division of Fish and Wildlife has developed the following guidelines for New York waters.

The primary objective of a minimum streamflow determination shall be to obtain a flow regime that insures an adequate level of protection, maintenance or enhancement for the identified aquatic ecosystem, particularly the fish community. Modifications in the flow regime have been shown to alter habitat characteristics and, in turn, result in shifts in species composition, richness and abundance.

To simplify the target species selection process, the Division of Fish and Wildlife has opted to employ a guild approach. In this situation, a guild is defined as a group of species that utilize the same class of environmental resources in a similar manner. In addition to habitat-use, this approach has also been employed in food habit and reproductive investigations of stream fishes and invertebrates. For habitat-use, fish species guilds will be assembled based upon the general types of stream morphology (i.e. riffles, runs, pools, etc.), which occur in the by-passed and downstream reaches. In the case of invertebrates, a second set of guilds, based on functional feeding groups (i.e. collectors, shredders, scrapers, predators, etc.), will be nested within the habitat guilds.

For coldwater stream ecosystems, the selection of target species from the fish community shall focus on those species which rely on riffle or run habitat during one or more life stages as well as current and potential fisheries management objectives (e.g. gamefish; endangered or threatened fishes; diadromous fishes; and special concerns species). At a minimum, one or more species from the following fish families-Salmonidae, Catostomidae, Cyprinidae, and Percidae shall be considered for inclusion in a habitat-flow evaluation. Similarly, selections of guild representatives for the coldwater invertebrate community shall include one or more taxa from the Orders Plecoptera, Trichoptera, Ephemeroptera, and Diptera as well as from the Class Crustacea. Other fish families and invertebrate groups may be included on either a site- or basin-specific basis.

For warmwater stream ecosystems. the Division of Fish and Wildlife shall recommend. at a minimum, one or more fish species from the Families Centrarchidae, Catostomidae, Cyprinidae, Percidae, and Ictaluridae be considered for habitat-flow requirements. Selections of representative species from the invertebrate community would follow the previous recommendations for coldwater stream ecosystems. In addition, other target species may be included on either a site- or basin-specific basis.

JDS:lfc
2/15/89

ATTACHMENT C

Comprehensive Technologies and Decision-making: Reflections on the Instream Flow Incremental Methodology

Berton L. Lamb

ABSTRACT

The controversy surrounding the Instream Flow Incremental Methodology is briefly discussed. A 1968 article by James Schlesinger on the likely success of systems analysis in aiding decision-makers is used to illustrate some pitfalls involving comprehensive technologies. The lessons of systems analysis are drawn together with the literature on instream flow methods to illustrate that there is no one best way to perform an instream flow analysis. It is argued that technology should be employed only with an extensive knowledge of assumptions and purposes.

The connection between technology and good decision-making is one that fascinates and captivates both decision-makers and scientists. How can the knowledge discovered by scientists be made useful to decision-makers? How can the needs of a decision-maker be made understandable to scientists? These questions and others are frequently asked in the interconnected fields of fisheries and water resource management. Often the questions are merely rhetorical. The person posing the question either has an answer or does not wish to hear a contrary opinion. Sometimes, however, when these questions are asked the inquirer wants to know: What stands in the way of a good scientific technology? Why are good technologies sometimes not applied? When applied, why don't they help?

Such questions, in fact, are common in many disciplines. Physical scientists are often bewildered that agency managers cannot incorporate their findings into regulatory policy; social scientists want to know how to make their work policy-relevant in foreign affairs. Seen from the other side, scientists usually propose solutions or develop methodologies that are cryptic, overly complex, and confusing to decision-makers.

A few months ago, these concerns were prominent in the thinking and planning of scientists at the Fish and Wildlife Service's National Ecology Research Center (Center), as discussions and debate raged over the utility of a technology known as the Instream Flow Incremental Methodology (IFIM). Much of this debate centered on the widely distributed literature exploring this methodology. For example, Bovee's (1982) monograph describing the technique was examined at the Center in light of articles by Mathur et al. (1985, 1986) taking to task a "validation" study by Orth and Maughn (1982, 1986). This examination occurred against a backdrop of critiques (Scott and Shirvell 1987), explanations (Gore and Nestler 1988), and discussions (Morhardt 1987) focusing on the IFIM. This controversy is made more acute because the IFIM research literature has expanded slowly (Nehring and Miller 1987; Orth 1987; Bovee 1988). The paradox examined at the Center was how to develop and test a methodology that is sufficiently sophisticated to deal with most of the variation in stream systems, while at the same time being simple enough for routine application by field personnel in the preparation of water management recommendations to decision-makers.

Scientists at the Center have given careful attention to similar matters in the past. For example, Lamb (1986, 1987) systematically described how scientists behave in matters of policy and the factors that result in the ultimate acceptance of technology by policy-makers. Stalnaker (1981) urged the development of sound biological habitat criteria and the abandonment of the "minimum flow" in favor of water management rules composed of flow regimes. Cavendish (1987) discussed the decision rules one might use in choosing an instream flow methodology. Douglas and Milhous (1987), and Sale et al. (1982) have discussed the use of IFIM output as production functions for reservoir operations. These offerings are only a small part of the literature on IFIM implementation.

The literature on implementation of the IFIM is only one part of a larger discussion on the politics of technology. For example, Benveniste's (1972) frequently cited book on the political aspects of expertise and Mazur's (1981) cogent thoughts on technical controversies are both instructive contributions. Both authors make a strong case for the many social factors influencing the development and use of technology. Ingram (1973), observing that decision-makers are "barraged by more information than they can actually use," listed several factors that affect what decision-makers hear, and what helps them sort through all the available information: issue, context, source of information, content of

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***Berton L. Lamb** is a policy analyst and leader of the Water Resource Analysis Section, Aquatic Systems Branch, Fish and Wildlife Service, National Ecology Center, 4512 McMurray Avenue, Fort Collins, CO 80525-3400.*

information, characteristics of the decision-maker, rules and regulations, and timing. She also argued that decision-makers face information costs in the form of obtaining information, using the data in decisions, and adjusting established values (Ingram 1976). All of this helps determine whether a technology is accepted.

In the midst of this extended series of conversations, an early article by James R. Schlesinger (1968) on the use of systems analysis in national policy-making came to my attention. The striking thing is how closely this 20-year-old essay mirrors the debate occupying scientists at the Center. As an intellectual exercise, the Schlesinger piece is presented here by substituting terms relating to IFIM and instream flows for the earlier discussion of systems analysis. The resulting essay was distributed to natural and physical scientists at the Center for their comment. All found the essay intuitively accurate and enlightening.

Although no firm conclusions can be reached from such a collection of opinions, this combined essay is offered as a comparison between the roadblocks, pitfalls, and exigencies that impaired the application of systems analysis in decision-making 20 years ago and the similar circumstances that surround implementation of instream flow studies today.

The Instream Flow Incremental Methodology and the Political Process[1]

Viewed abstractly, ~~systems~~ *instream flow*[2] analysis implies rigorous thinking, hopefully quantitative, regarding the gains and the resource-expenditures involved in a particular course of action—to insure that scarce resources are employed productively rather than wastefully. It is almost tautological, therefore, to state that ~~systems~~ *instream flow* analysis, effectively employed, will be beneficial. The real questions arise when we descend from a high level of abstraction and begin to grapple with the practical issues. Attention must be given to such issues as (1) the quality of the information base, (2) methodology, (3) bias, and (4) the impact of politicized environments on analytical efforts and analytical results.

These issues cannot be treated wholly in isolation. The quality of information, for example, is very much influenced (and biased) by the structure of and alliances within the bureaucracy *and fisheries, hydrology, and water resource disciplines*. The methodology chosen for analytical efforts will in itself introduce a specific form of bias. These *biases*, in turn, reinforced by the specific interests and functions of *separate disciplines and* Sections of the bureaucracy, will increase tensions within the Government *and private sector* and make more costly the introduction of changes which might objectively be regarded as desirable. Nonetheless, the effort to sort out different classes of issues must be made.

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Data Problems

Where gross wastage and irrationality in *instream flow or other water uses* have flourished, it is relatively easy (in principle) to indicate very improved patterns of resource allocation even in the face of rather skimpy data. In all other cases the quality of the underlying data will determine the quality of analysis. The fact must be recognized that the *fishery response* data presently available to the ~~government~~ *instream flow specialist* for analytical work are not good. . . . *Most of the instream flow analysts* faces an uphill fight simply in developing useful data. In part, this problem will yield to steady effort especially as more trained personnel become available. However, it would be utopian to expect agencies *or private organizations* automatically to provide data useful for analytical purposes. Knowledge is a form of power, and most institutions exhibit an understandable reluctance to dissipate this power in the absence of compensating advantages. While newer or favored agencies *and organizations*, which anticipate expanded budgets, are likely to prove cooperative, the oldline ~~agencies~~ *organizations*, especially those that have established a degree of independence, are likely to prove obdurate. In many cases, data of appropriate quality can only

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[1] Adapted from James R. Schlesinger "Systems Analysis and the Political Process" Journal of Law and Economics, Vol. II, October 1968, p. 281–284. Reprinted by permission of the University of Chicago Press.

[2] The words and phrases substituted for Schlesinger's original are in italics while the original words are crossed out.

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be obtained through the wholehearted cooperation of the relevant agencies. Since the indicated tactic for many will be to hide some information and to release much of the balance in warped form, many decisions will continue to be based on deficient information with only limited confidence being placed in the results.

Methodology Problems

The existence of an established methodology *like the IFIM* creates problems which ought not be ignored, even though a sense of proportion does suggest that the potential payoffs from analysis substantially exceed the risks involved. In the first place, the availability of analytical tools may obscure the unpleasant reality that many ~~public policy~~ *instream flow* problems are highly intractable. The real problem is not method but understanding; the linking of ~~costs~~ *flows* and benefits *to fisheries* is only as good as man's knowledge. Yet, there exists an image of ~~systems~~ *IFIM* analysis in which expert practitioners apply their methods and grind out solutions to policy problems—in the absence of a deep knowledge of the relevant social institutions or real-world *biological* mechanics. That image ~~is~~ *may be* false. But *if true* it easily may lead to pseudosolutions based on nonsense relationships incorporated into a model.

Reinforcing this tendency, the background of ~~systems~~ *instream flow* analysis in lower-order operations research problems has resulted in a lingering preference for formal models, preferably mathematical. Yet in numerous cases ~~this~~ *a lesson drawn from simple research projects* leads to the neglect of important variables which are not readily subject to manipulation by existing methods. The normal association of model-building and simplification cannot be avoided in analytical work ~~in the social sciences~~, but there is cause for concern if such analytical work becomes the sole basis for decision-making. The stress on quantifiable elements is particularly risky in ~~cost-benefit~~ *instream flow* work where objectives are hard to define or subject to change. In most cases the *construction and operating* cost elements *of a water development project* can be reduced to money terms. By contrast, *instream flow* objectives *for fisheries* may be numerous, mutually incommensurable, and reducible to money terms only on the basis of rather arbitrary and subjective judgments by the analyst. The result is that what started as a ~~cost-benefit~~ *flow-habitat* analysis becomes primarily a crude cost comparison—with inadequate attention either to a number of the potential benefits or to the adaptability of the preferred alternative to a number of unforeseen contingencies. Countervailing tendencies toward prodigality in pursuit of misconceived or ill-defined objectives may bulk larger overall, yet there is no assurance that such tendencies will serve as direct offsets to the biasing of specific analyses toward the choice of the low-cost alternative. As systems-analytical work becomes routinized, the risks implicit in methodological bias will rise.

A digression is in order here. Because use of the Instream Flow Incremental Methodology requires a "deep knowledge" it may not be the methodology of choice. The methodology is fairly expensive to use and, depending on management assumptions at the outset, it may result in a set of alternatives that are expensive to implement. The methodology was intended as a decision-making tool. When applied with care by knowledgeable professionals it may decrease uncertainty, but it will not result in an abiding truth. Thus, bias in methodology selection may lead an analyst to avoid using the Instream Flow Incremental Methodology in favor of a simple, cheap approach. Sometimes a piece of the IFIM, i.e., the Physical Habitat Simulation System (PHABSIM), is used to achieve relatively quick, inexpensive results. In choosing PHABSIM, other elements of the IFIM, such as stream temperature, dissolved oxygen, and water supply models, are ignored. Using only PHABSIM reduces study cost at the expense of a number of important variables. Conversely, the methodology may be prescribed by regulators in the hope that it will be so expensive and complex it might frighten a developer into inaction. Whatever the motive, seeking a simple answer at the cheapest price, while at the same time demanding the assurance that the result is "truth," should be avoided.

Bias Problems

As distinct from methodological bias, the more general forms of bias reflect the pressures of a large and variegated organizational structure. Among the causes of bias are: asymmetry in the sources of information, disproportionate attention by the analyst to preferred information sources, prior intellectual commitment on the part of the analyst, selectivity in organizational recruitment, and other bureaucratic pressures. From these sources a great deal of bias, reinforced by slipshod and mechanistic work, inevitably slips in, even on those occasions that it is not deliberately introduced. It scarcely needs saying that in so complex an ~~organization~~ *issue* as ~~the United States Government~~ *water resource allocation*, viewed from its highest levels, the deliberate introduction of misinformation and distortion is no insignificant problem in itself. The point being made here is that a very large proportion of total bias springs from honest conviction rather than the attempt to deceive, and it is particularly difficult to compensate for bias in this form. Contrary to a widespread hope the solution does not lie in the training and upgrading of personnel—in getting more honest (or more intelligent and capable) personnel. The most damaging forms of bias spring from an honest, if misguided, conviction of the correctness of one's own views. Where biases clash they may be viewed with less apprehension under the classification of the 'competition of ideas.' But all too frequently biases are mutually reinforcing. And, in any event, the introduction of bias (inevitable in all save the lowest-order decisions) contaminates the detached and quantitative analysis which a widespread myth holds to be attainable.

Political Problems

The final question bearing on the effectiveness of ~~systems~~ *instream flow* analysis for ~~governmental~~ decision-making is the impact of politicized environments on analytical efforts and analytical results. The deliberate introduction of distortion and fuzziness to improve the competitive position of one's own agency or ~~division~~ *business* is an unavoidable and dominant feature of the ~~bureaucratic~~ *instream flow-water development* landscape. At lower levels the tendency to pick and choose those data which support one's position results in analyses which may be uncritically accepted at higher levels, if the conclusions are palatable. Only if the conclusions are unpalatable, will searching questions be raised regarding the underlying data. Not infrequently, the very ~~agencies~~ *organizations* whose premises are most questionable, are the very ones which are most adept in handling the new quantitative tools, and in developing a superficially convincing presentation that may beguile those charged with responsibility for review.

The techniques of deception are legion; the effectiveness of intelligence operations and the available sanctions frequently low. In the variegated structure of ~~Government~~ *instream flow decision-making* (with innumerable agencies and ~~sub-agencies~~ *businesses*), deliberate distortion is reinforced by honest conviction, bias, recruitment, limited information, and the structure of power. It becomes impossible to separate one such element from another. In a perpetual rutting season, these mutually-reinforcing tendencies provide for the preservation of their own kind within each sector of the lattice structure of ~~the Government~~ *decision-making*. How much ~~systems~~ *IFIM* analysis can do to counteract the pernicious results of such tendencies remains an open qustion. Certainly, ~~it~~ *careful use of methodology* can accomplish something—hopefully a great deal. Nonetheless, the resistances to the application of systematic and rigorous analysis in a highly politicized environment are sufficient to make even the stoutest heart grow faint. . . .

Conclusion

Casual observation of the history and evolution of the IFIM illustrates a great deal of pulling and hauling among the interested parties. This holds not only in negotiations over instream flow recommendations, but also in scientific discussions of the validity and proper use of the technique. Cavendish and Duncan (1986) described one circumstance in which the use of the IFIM worked out well, pointing out that the methodology is most useful when the parties build a sound common understanding of the techniques involved. Lamb (1989) has described a number of circumstances in which other methods are appropriate. He shows that there is a place for comprehensive technologies, like the IFIM, as well as for more simple approaches.

The rewritten version of Schlesinger's article seems to say that agencies and businesses are nefarious in their use of scientific tools. Self-serving and underhanded behavior is, of course, always possible. Such activities as hiding data and obscuring results are unethical for scientists, project proponents, and policy-makers. A closer reading of Schlesinger, however, reveals that his point is more subtle. Because the biological phenomena are complex, and the institutional arrangements are unclear, there is a chance for bias to play an unintended part in any analysis. Error is introduced when analysts overlook fuzziness, view data as pure, ignore important variables, and accept model outputs as truth. Error is also introduced when analysts are overly zealous and ideological.

It is these exogenous variables that make dealing with a scientific technology difficult in policy-making. Glantz (1986) referred to these as the "societal factors" affecting fisheries management. He made the point that at the national level two societal factors are present. The first is conflicting objectives, which obscure choices in study design, methodology, data collection and analysis, and the creation of recommendations. The second is scientific uncertainty. Here Glantz meant that science is itself uncertain about many, perhaps most, natural phenomena, and decision-makers are uncertain about science. In short, a lack of confidence goes both ways; scientists distrusting policy-makers and decision-makers distrusting science.

The best strategy in this kind of fluid scientific and policy controversy is to be well informed and skeptical; recognizing the role of critical literature in productive scientific discussion. With regard to the IFIM, this means understanding its assumptions and purposes as well as criticisms. Cavendish and Duncan (1986) have shown that it can be a helpful tool; Mathur et al. (1985) and Scott and Shirvell (1987) have shown that an intimate understanding of the recommendations and analyses made by others is essential for use of the tool; and Orth (1987) and Bovee (1988) have shown that there is room for some confidence in the methodology. The practitioner, agency representative, or entrepreneur, are well advised to adhere to the adage "there is no such thing as one-best-way." ➤

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Thomas C. Jorling
Commissioner

November 20, 1989

The Honorable Bill Bradley
United States Senate
731 Senate Hart Office Building
Washington, D.C. 20510-6150

Dear Senator Bradley:

I would like to take this opportunity to correct the record of my description of New York's hydropower licensing review program before your Subcommittee on Water and Power on September 28, 1989. During that testimony, I stated that New York did not condition its certifications of hydropower projects under Section 401 of the Clean Water Act with requirements for recreational access and other conditions not related to water quality. I have since been informed that there are circumstances under which New York would indeed place such a condition on a 401 water quality certificate. An application for a new project would trigger the New York's State Environmental Quality Review Act [Environmental Conservation Law Article 8] which mandates a comprehensive review of environmental impacts of projects requiring state permits such as the 401 water quality certificate. This review covers the entire project and may result in the identification of environmentally beneficial modifications to the project which then are required as a condition of the 401 water quality certificate. Provision of recreational access may then be required as a condition of the water quality certificate. You should be aware that the applicability of this comprehensive environmental review in the context of 401 certificates issued to hydropower projects is currently the subject of litigation in the New York courts. I emphasize that this circumstance would apply to new projects and that the resultant conditions on the water quality certificate would be consistent with the consultation comments to the Federal Energy Regulatory Commission for these projects. Unlike some other states, New York's Department of Environmental Conservation is responsible both for issuing 401 water quality certificates and conducting the consultation review required of natural resource agencies under the Federal Power Act.

I appreciate the opportunity to clarify the record on these important proceedings. I have also enclosed a new summary of New York's hydropower review procedures for the Subcommittee's information.

Sincerely,

James R. Colquhoun
Chief
Bureau of Environmental Protection

Enclosure

JRC:fb
bcc: R. Binnewies
B. Catone
L. Concra
K. Silliman
M. MacKenzie

15 (12-75)

CC. [illegible]
SB
[illegible]

New York State Department of Environmental Conservation

MEMORANDUM

TO: Small Hydro Task Force
FROM: Robert Binnewies, Deputy Commissioner
SUBJECT: Hydropower Project Review Procedures
DATE: November 13, 1989

NOV 14 1989

This memorandum is intended to provide guidance to Department staff involved in the review and licensing of hydropower facilities. Both the federal consultation process and the process for issuing 401 water quality certificates are described in detail. It is not the purpose of this memorandum to supplant the existing regulatory provisions; rather, the complex regulations are presented in outline form to facilitate their implementation. Further, the Department's internal review procedures and the opportunities for public input are also described in detail. References are given to the applicable State and Federal statutes and regulations.

This memorandum has been prepared to provide advice and guidance only; its provisions are not binding or enforceable. However, it is intended that its provisions be adhered to by Department staff in reviewing hydroelectric facilities. Please distribute copies of this memorandum to your staff. If you have any questions regarding the content of this memorandum, please direct them to Assistant Counsel Keith Silliman at 457-8809.

I. 401 Water Quality Certificates [33 U.S.C. §1341]

A. Scope of Authority

1. Requirements

   a. DEC will issue or deny the 401 certification;
   b. the applicant must comply with State statutory and regulatory substantive provisions regarding water quality;
   c. the 401 certificate is required as a condition precedent to the issuance of a federal hydropower license (unless waived by DEC); and
   d. DEC has primary responsibility for ensuring compliance with water quality-related provisions and other "appropriate" requirements of State law.

2. State implementing regulation: 6 NYCRR §608.7(a)

Water quality certifications required by section 401 of the Federal Water Pollution Control Act (33 USC 1341). Any applicant for a Federal license or permit to conduct any activity, including but not limited to the construction or operation of facilities which may result in any discharge into navigable waters as defined in section 502 of the Federal Water Pollution Control Act (33 USC §1362), must apply for and obtain a water quality certification from the Department. The applicant must demonstrate compliance with sections 301-303, 306 and 307 of the Federal Water Pollution Control Act, as implemented by the following provisions:

(1) effluent limitations and water quality-related effluent limitations set forth in section 754.1(a)(1) of this Title;

(2) water quality standards and thermal discharge criteria set forth in Parts 701, 702 and 704 of this Title;

(3) standards of performance for new sources set forth in section 754.1(a)(2) of this Title;

(4) effluent limitations, effluent prohibitions and pretreatment standards set forth in section 754.1(a)(3) of this Title;

(5) prohibited discharges set forth in section 751.2(a) of this Title; and

(6) State statutes, regulations and criteria otherwise applicable to such activities (see below).

3. 6 NYCRR 608.7(a)(6)

a. What does this section encompass?

(1) Protection of Streams: disturbance of stream beds [ECL §15-0501];
(2) Protection of Streams: dam construction [ECL §15-0503];
(3) Protection of Waters: excavation or fill [ECL §15-0505];
(4) Dam Safety [ECL §15-0507];
(5) Reservoir releases [ECL §15-0801 *et seq.*];
(6) Freshwater and Tidal Wetlands [ECL Articles 24 and 25];

(7) Fish and Wildlife [ECL Article 11]; and
(8) Environmental Quality Review ("SEQR") [ECL Article 8].

b. The requirements and conditions normally imposed through the issuance of the above referenced permits shall be incorporated into the 401 certification.

B. Initial Processing of Applications for 401 Certifications

1. Subject to Uniform Procedures [6 NYCRR Part 621]
    a. See 621.2(e)

2. Application Requirements
    a. See 621.3(a)(1-10)
        (1) 621.3(a)(4) requires applicant to simultaneously apply for all DEC permits
    b. See 621.3(a)(7) regarding SEQR
        (1) Environmental Assessment Form must be submitted, and
        (2) Neg Dec or Conditioned Neg Dec filed, or DEIS accepted by Lead Agency
    c. Specific Requirements [621.4(e)]
        (1) Completed application for federal license
        (2) Completed application for all DEC permits
    d. For Article 15 permits, see 621.4(a)
        (1) disturbance of beds
        (2) construction or repair of dams
        (3) dredge and fill

3. Determination of Completeness
    a. 621.5(b)(2) mail notice of completeness within 15 days of receipt
        (1) Notice receipt of 401 Certificate application in ENB
        (2) Review by relevant program staff
            - Specifically identify all areas of incompleteness
    b. Notice of Incompleteness - see 621.5(c)
        (1) Specifically identify all areas of incompleteness
    c. Upon resubmittal, a new 15 day period begins [621.5(g)]
    d. Notice of Completeness - see 621.5(d)
        (1) timeframes - public comment
            - 15 days after publication re application
            - 30 days for DEIS

- e. Application automatically complete if DEC fails to act within 15 days
  - (1) does not waive SEQR [621.5(f)]
  - (2) nor our right to request further information pursuant to 621.5(d)
- f. Public Notice - see 621.6
  - (1) Publish in ENB within 10 days after notice of complete application is sent to applicant
    - set forth information required in 621.5(d)(1-8)
- g. Under FERC Regulations, DEC must issue or deny the 401 certificate within one year after receiving the initial 401 certification request.

C. SEQR - Initial Review of Actions [617.5]

1. Is Action Subject to SEQR?
   - a. Yes, unless excluded [617.2(p)] or exempt [621.2(g)]

2. Did FERC require an EIS under NEPA?
   - a. See 617.16

3. Identify other involved agencies
   - a. establish lead agency 617.6

4. Timing 617.6(c)
   - a. determine significance within 20 days of becoming lead agency or receipt of all reasonably required information, whichever last occurs (subject to 15 day UPA timeclock unless incomplete notice sent).

5. Classify project: Hydropower projects are Unlisted Actions [617.2(kk)] [see Energy Law §21-106]

6. Determine significance
   - a. Although a Short EAF or Full EAF may be used [617.5(c)], recommend use of Full EAF.
   - b. Make written determination based upon
     - (1) EAF
     - (2) criteria in 617.11
     - (3) other relevant information (Federal application)
     - (4) analysis of identified environmental concerns
     - (5) see 617.6(g)
   - c. Review by relevant program staff
     - (1) within I.C.4. timeframe

7. Conditioned Negative Declaration [617.6(h)]
   - (a) full EAF required
   - (b) conditions imposed eliminate or mitigate all significant environmental impacts
   - (c) publish notice in ENB, including conditions
     - (1) 30 day comment period
   - (d) filed in accordance with Type I proceeding 617.10(a)(2)
   - (e) comments: DEIS required
     - (1) if comments support a Pos Dec on previously identified or newly raised significance environmental impacts
     - (2) need to examine adequacy of mitigation

8. Positive Declaration 617.6(g)
   - a. An EIS must be prepared if the proposed project includes the potential for one or more significant environmental effect(s)
   - b. Notice requirements 617.10(b)

9. Negative Declaration
   - a. Neg Dec must meet the requirements of 617.6(g)(2)
   - b. Notice of the Neg Dec or conditioned Neg Dec must be included in the Notice of Complete Application 617.10(a)(3)

D. EIS Procedures

1. Scoping 617.7
   - a. A scoping meeting should be held to identify relevant issues
   - b. Utilize scoping checklist [621.21] as outline for meeting
   - c. Publish notice in ENB
   - d. Invite interested agencies and the public
2. Content
   - a. Utilize information developed during scoping
   - b. Comply with 617.14
   - c. Cross-reference to FERC license application acceptable
3. DEIS - internal review (regulatory requirements)
   - a. 30 days to accept DEIS as satisfactory
     - (1) one 30 day extension is available upon written notice to applicant 617.8(b)(2)
   - b. If inadequate, identify deficiencies in writing 617.8(b)(3)
   - c. Have 30 days to accept following resubmittal
   - d. Notice requirements 617.10(c) and (d)

4. DEIS - internal program review
    - a. Circulate to program: day 3
    - b. Review and comment to DRA: day 23
    - c. Dispute resolution: day 24-27
    - d. Request 30 day extension: day 25
    - e. Circulate final draft for review: day 27
    - f. Review: day 27-29
      Final signoff to DRA: day 29
    - g. Acceptance/rejection: day 30

E. Processing following Completeness and SEQR Determination

1. Notice of Completeness - see 621.5(d)
    - a. Timeframes for public comment
        - (1) 15 days after publication re application
        - (2) 30 days for DEIS [Note: do one 30 day (minimum) comment period for both DEIS and Application where DEIS is required]
    - b. Public notice - see 621.6
      ENB within 10 days after notice to applicant
        - (1) set forth information required in 621.5(d)(1-8)
2. Notice of Completeness of DEIS - See 617.10(e)
    - a. Comment period must run
        - (1) 30 days from completeness; or
        - (2) 10 days after hearing, whichever is later
3. UPA/SEQR Public hearing [see 621.7(a)]
    - a. To review comments on DEIS
    - b. As a matter of policy, required when DEC is lead agency
    - c. Criteria
        - (1) degree of public interest
        - (2) have substantive or significant environmental issues been raised
        - (3) adequacy of proposed mitigation measures
        - (4) consideration of alternatives
        - (5) usefulness of hearing as forum to aid decisionmaking
    - c. Timeframes
        - (1) Hearing must being 15 to 60 days after filing the notice of completion of the DEIS
        - (2) Publish notice of hearing 14 days in advance [see 617.8(d)(1)]
4. 401 Certificate Conditions
    - a. Draft Certificate
        - (1) Prepared by DRA
        - (2) Include conditions based upon
            - (a) program input
            - (b) public input
            - (c) application
            - (d) DEIS

- (3) Conditions: incorporate all requirements of 6 NYCRR 608.7 (described above) including:
  - (a) effluent limitations, standards of performance and pretreatment standards [751.1(a)(1-3)]
  - (b) water quality standards [701, 702, 704]
  - (c) prohibited discharges [751.2(a)]
  - (d) stream bed disturbance [15-0501]
  - (e) dam construction [15-0503]
  - (f) excavation and fill [15-0505]
  - (g) dam safety [15-0507]
  - (h) reservoir releases [15-0801]
  - (i) freshwater and tidal wetlands [Articles 24 and 25]
  - (j) SEQR [Article 8]
- (4) Timing
  - (a) Prepare when reviewing DEIS
  - (b) Opportunity for review and comment by program divisions

b. Decision to hold an adjudicatory hearing
- (1) Criteria [621.7(b)]
  - (a) DEC's review raised substantive and significant issues
  - (b) are major modifications necessary
  - (c) public comment raised substantive and significant issues
    - (1) mere expressions of general opposition insufficient

c. Decision to hold legislative hearing
- (1) Criteria
  - (a) significant public interest
  - (b) fulfill SEQR requirements

d. Timeframe
- (1) Notice
  - (a) to applicant and commentators

II. FERC Licensing

A. Definitions

1. Preliminary Permit [18 CFR 4.80]

a. Purpose
- (1) Secures priority of application for a license
- (2) Permits applicant time to obtain data and determine feasibility of licensing project

b. Contents of application - see 4.82

2. Exemption from licensing
   a. Purpose: relieved from burden of complying with all or part of the licensing requirements of the Federal Power Act
   b. 401 certificate requirements do not apply
   c. Requirements
      (1) small conduit facilities
         (a) definition 4.30(b)(26)
         (b) see 4.90
      (2) case specific exemption
         (a) see 4.101
3. Licenses
   a. Major unconstructed project and major modified project [4.40]
   b. Major project - existing dam [4.50]
   c. Minor project/major project 5 MW/less [4.60]
4. Intervention
   a. DEC will intervene in all FERC Hydro proceedings for projects located in New York
   b. DRA prepares intervention petition
      (1) Serve all persons on party list
      (2) reviewed and signed by counsel
   c. Intervention in preliminary permit proceeding does not constitute intervention in future license or exemption proceeding

B. Prefiling Consultation requirements [4.38]

1. Initial stage
   a. The applicant must provide
      (1) maps of project area
      (2) general engineering design
      (3) summary of operational mode
      (4) identify affected environment
         (a) significant resources present
         (b) protection, mitigation and enhancement plans
      (5) Stream flow information
   b. Public Input Opportunity
      (1) Publish notice in ENB regarding commencement of initial stage consultation and invitation to public to comment.
      (2) Place public on mailing list, if requested.
      (3) Meet with interested public, if requested.
      (4) Circulate public comments received to all program review staff to enable their consideration in development of DEC onsultation comments.

        (5) Consider public input (and reflect such consideration) in consultation comments submitted to FERC.
    c. Circulate consultation documents to:
        (1) Division of Fish and Wildlife
        (2) Division of Lands and Forests
        (3) Division of Water
        (4) Regional Office
        (5) Division of Legal Affairs
        (6) The following, if appropriate:
            (a) Public Service Commission
            (b) Office of Parks, Recreation and Historic Preservation
            (c) Department of Transportation
            (d) Department of State
            (e) Department of Agriculture and Markets
2. Second stage
    a. Studies
        (1) prior to filing application
            (a) influence economic viability (maximum flow)
            (b) influence technical feasibility
            (c) design/location of facilities
            (d) resource surveys (for mitigation)
        (2) After license issued
            (a) if operation dependent
    b. Provide draft application
        (1) including study results
        (2) review and comment period
            (a) 30 days
                (1) minor project/major project 5 MW or larger
                (2) exemption
            (b) 60 days
                (1) major unconstructed or modified project
                (2) major project existing dam
                (3) Applicant must respond to comments received on initial stage consultation
                (4) Applicant must discuss study results
            (c) Public input opportunity
                (1) Publish notice in ENB regarding commencement of second stage consultation and invitation to public to comment.
                (2) Place public on mailing list, if requested.
                (3) Meet with interested public, if requested.

(4) Circulate public comments received to all program review staff to enable their consideration in development of DEC consultation comments.
(5) Consider public input (and reflect such consideration) in consultation comments submitted to FERC.
(d) Circulate consultation documents to:
(1) Division of Fish and Wildlife
(2) Division of Lands and Forests
(3) Division of Water
(4) Regional Office
(5) The following, if appropriate:
(a) Public Service Commission
(b) Office of Parks, Recreation and Historic Preservation
(c) Department of Transportation
(d) Department of State
(e) Department of Agriculture and Markets

c. Make determination whether or not DEC should oppose the project.
3. Third Stage Consultation
a. When file with FERC for exemption, minor license, major license < 5 MW, serve on DEC
b. For major project > 5 MW provide application to DEC after accepted by FERC
c. Exhibit e of application documents compliance with consultation requirements, including
(1) agency letters
(2) 401 certificate
(a) copy of certification or
(b) copy of certification request
(c) waived if not denied or granted within one year after receipt of request

C. License/Exemption Application
1. DEC will intervene on all applications
2. DRA will notice in ENB
3. FERC requests public comment
a. Normally 60 days
b. DEC internal review process
(1) DRA circulate to program: day 3
(2) Program review and comment: day 3-30
(3) DRA prepare final consultation letter and resolve disputes day 30-50

- (4) Draft letter circulated: day 51
- (5) Letter finalized and forwarded to FERC: day 56-58
    - (a) original and 14 copies
    - (b) Service list
- c. Circulate license application to:
    - (1) Division of Fish and Wildlife
    - (2) Division of Lands and Forests
    - (3) Division of Water
    - (4) Regional Office
    - (5) Division of Legal Affairs
    - (6) The following, if appropriate:
        - (a) Public Service Commission
        - (b) Office of Parks, Recreation and Historic Preservation
        - (c) Department of Transportation
        - (d) Department of State
        - (e) Department of Agriculture and Markets
- d. Public input opportunity
    - (1) Publish notice in ENB regarding license application and invitation to public to comment.
    - (2) Place public on mailing list, if requested.
    - (3) Meet with interested public, if requested.
    - (4) Circulate public comments received to all program review staff to enable their consideration in development of DEC consultation comments.
    - (5) Consider public input (and reflect such consideration) in consultation comments submitted to FERC.

- D. License Amendments [4.35]
    - 1. Material amendments constitute a new filing
        - (a) requires new 401 certification [4.38(e)(3)]
        - (b) requires applicant to recommence prefiling consultation
    - 2. Correction of deficiencies does not constitute a license amendment.
    - 3. Change in the application to satisfy concerns of Fish and Wildlife agencies resulting from consultation does not constitute a material amendment.

III. FERC Relicensing [18 CFR Part 16]

- A. Consultation requirements [18 CFR 16.8] [note transmittal provisions, below]

1. First Stage [18 CFR 16.8(b)]
  a. Applicant must provide:
    (1) detailed maps
    (2) general engineering design
    (3) summary of existing operational mode
    (4) identification of affected environment
      - significant resources
      - existing and proposed protection, mitigation and enhancement
    (5) streamflow and water regime
    (6) description and methodology of proposed studies
  b. Joint public meeting
    (1) 30 to 60 days after providing above information
    (2) Including a site visit
    (3) Public invited - participate fully
      - site visit at applicant's discretion
  c. Agency comments due 60 days after meeting
    (1) in writing
    (2) identify resource issues, goals and objectives
    (3) necessary studies/information to be provided
        - provide justification
        - including methodology
        - documentation
        - usefulness in achieving resource goals and objectives
    (4) DEC internal review procedures (90 days)
      (a) DRA circulate to program: day 3
      (b) Program review and comment: day 3-50
      (c) DRA draft letter/resolve disputes: day 50-75
      (d) Draft letter circulated: day 76
      (e) Letter submitted to FERC: day 85
    (5) Circulate consultation documents to:
      (1) Division of Fish and Wildlife
      (2) Division of Lands and Forests
      (3) Division of Water
      (4) Regional Office
      (5) Division of Legal Affairs
      (6) The following, if appropriate:
        (a) Public Service Commission
        (b) Office of Parks, Recreation and Historic Preservation
        (c) Department of Transportation
        (d) Department of State
        (e) Department of Agriculture and Markets

- (6) Public input opportunity
  - (a) Publish notice in ENB regarding commencement of initial stage consultation and invitation to public to comment.
  - (b) Place public on mailing list, if requested.
  - (c) Meet with interested public, if requested.
  - (d) Circulate public comments received to all program review staff to enable their consideration in development of DEC consultation comments.
  - (e) Consider public input (and reflect such consideration) in consultation comments submitted to FERC.

- d. Dispute resolution
  - (1) Between DEC and applicant - refer to FERC Director of Hydropower Licensing
    - in writing
    - serve on other party
      - respond within 15 days
    - file with FERC Secretary
      - serve all parties
- e. First stage consultation ends
  - (1) 60 days after public meeting; or
  - (2) after comments served, whichever first occurs

2. Second Stage Consultation
   - a. Complete studies
     - (1) Prior to filing of application
       - financial/technical feasibility
       - design/location
       - reasonable alternatives
       - impact on natural resources
       - mitigation/enhancement
     - (2) After filing but before license issuance:
       - if completed first stage consultation
       - timing constraints on completing study
     - (3) After licensing
       - if dependent upon construction or operation of facility
       - would determine success of protection, mitigation, enhancement conditions
       - used to refine/modify project
       - treated as additional information

  - won't delay application acceptance
  - won't warrant deficiency notice

b. Studies requested after first stage consultation completed
(1) dispute resolution provisions apply
(2) treat as additional information
(3) not a factor in application completeness

c. Applicant provide
(1) draft application (indicating type)
(2) response to comments
(3) results of studies requested during first stage

d. DEC review
(1) 90 days from the date of letter of transmittal
(2) if we have substantial disagreement with applicant's conclusions:

- meets with applicant within 60 days of date of DEC's comments
  - provide written agenda, 15 days before meeting

(3) DEC internal review procedures (90 days)
(a) DRA circulate to program: day 3
(b) Program review and comment: day 3-50
(c) DRA draft letter/resolve disputes: day 50-75
(d) Draft letter circulated: day 76
(e) Letter submitted to FERC: day 85

(5) Circulate consultation documents to:
(1) Division of Fish and Wildlife
(2) Division of Lands and Forests
(3) Division of Water
(4) Regional Office
(5) The following, if appropriate:
(a) Public Service Commission
(b) Office of Parks, Recreation and Historic Preservation
(c) Department of Transportation
(d) Department of State
(e) Department of Agriculture and Markets

(4) Public input opportunity
(a) Publish notice in ENB regarding commencement of second stage consultation and invitation to public to comment.

- (b) Place public on mailing list, if requested.
- (c) Meet with interested public, if requested.
- (d) Circulate public comments received to all program review staff to enable their consideration in development of DEC consultation comments.
- (e) Consider public input (and reflect such consideration) in consultation comments submitted to FERC.

e. The applicant must respond to disagreement in writing
  (1) Either explain disagreement or resolution of conflict

f. Consultation ends
  (1) 90 days after submittal of draft application, if DEC fails to comment, or
  (2) after last joint meeting if DEC has substantial disagreement with applicant

3. Third Stage consultation
  a. Filing of application
  b. correction of deficiencies
  c. Exhibit E
    (1) proof of consultation
      - or waiver by DEC
    (2) remaining areas of disagreement
    (3) compliance with comprehensive plan [18 CFR 2.19]
    (4) 401 Certificate
      - application
      - receipt
      - waiver
    (5) address significant resource issues raised by the public

4. Confidentiality
  a. DEC FOIL provisions apply
    - see 6 NYCRR 616
    - see DEC Policies and Procedures Manual Chapter 3364 - Freedom of Information

5. Other meetings with the Applicant
  a. Agenda must be provided 15 days prior to meeting
  b. Notice given to FERC

B. Transition 16.8(j)
  1. If applicant has completed initial consultation pursuant to 4.38(b)(1) prior to July 3, 1989, then 16.8(b) regarding first stage consultation does not apply.

2. If applicant has completed second stage consultation pursuant to 4.38(b)(2) prior to July 3, 1989, then 16.8(c) second stage consultation does not apply.

3. 18 CFR 4.38 sets forth the consultation requirements for the licensing of hydro projects and existed prior to the promulgation of the relicensing regulations.

4. Even if the applicant has filed an application prior to July 3, 1989 a public meeting must be held before October 2, 1989. See 16.8(j)(4)(i).

5. Request for clarification of the transitional facilities must be filed with OHL prior to October 2, 1989.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

ADDRESS ONLY THE DIRECTOR
FISH AND WILDLIFE SERVICE

In Reply Refer To:
FWS/EHC/F9-6901

JAN 1 1 1990

Honorable Bill Bradley
Chairman, Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510-6150

Dear Mr. Chairman:

Thank you for your October 17 letter to Mr. Conley Moffett requesting further information on hydroelectric regulation under the Federal Power Act.

Enclosed is the Fish and Wildlife Service's response to the questions submitted by Senator Dale Bumpers for the printed record of the September 28 hearing on hydropower licensing and regulation. I apologize for the delay in our response, but we did not receive a copy of your letter until December 4.

Please contact me if I can be of further assistance.

Sincerely,

/s/ Sam Marler

Assistant DIRECTOR

Enclosure

Fish and Wildlife Service (Service) Response to Questions Submitted by Senator Dale Bumpers for the Hydropower Relicensing Oversight Hearing Record

Is there not a commonly accepted methodology for determining instream flow requirements?

The most widely accepted method for determining instream flow requirements is the Service's Instream Flow Incremental Methodology. This state-of-the-art methodology provides a comprehensive array of instream flows for a variety of conditions.

The Service generally recommends that hydropower license applicants conduct Instream Flow Incremental Methodology studies. The results are then used by the Service to develop instream flow recommendations. However, the instream flow studies require intensive field work and computer modelling, which an applicant may not be willing to fund. In several parts of the country, State and Federal agencies have agreed upon less intensive methods for developing instream flow recommendations. The Service also accepts less intensive methods for those projects where resource issues are not very complex and controversy over instream flows is not anticipated.

If not, is this an area where further research is needed?

The Service is conducting further studies to evaluate the Instream Flow Incremental Methodology and to better adapt the methodology to warmwater streams.

Would a federally sponsored program be appropriate?

The Service has a program to develop, evaluate, and modify an instream flow methodology.

What other suggestions do you have to prevent conflicts in this area?

Conflicts often arise when license applicants are either unwilling to expend the resources to conduct adequate studies for developing instream flow recommendations or to accept the results of the studies. To prevent conflicts at the end of the licensing process, the applicant and the resource agencies need to reach an agreement on the study methods early in the process. The Federal Energy Regulatory Commission's regulations for relicensing activities now state that study methods should be agreed upon during the first stage of consultation. We suggest this same principle be applied to initial licenses as well.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230
OFFICE OF LEGISLATIVE AFFAIRS

JAN 2 1990

Honorable Bill Bradley
Chairman, Subcommittee on Water
and Power
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed are answers to follow-up questions for the record of the Subcommittee's hearing on hydroelectric regulation under the Federal Power Act.

Should you, or any of your colleagues, have any further questions, please contact me.

Sincerely,

Cliff Downer
for
Lori Gribbin
Director

cc: Senator Bumpers

NOAA Responses to Questions for the Record Submitted by Senator Dale Bumpers in followup to the Hydroelectric Licensing Hearing Held by the Subcommittee on Water and Power, Senate Committee on Energy and Natural Resources

1) Is there a commonly accepted methodology for determining instream flow requirements?

If not, is this an area where further research is needed?

The commonly accepted methodology for determining instream flow requirements at proposed small hydropower projects is the Instream Flow Incremental Method (IFIM). This method was developed by the U.S. Fish and Wildlife Service, and represents the state-of-the-art regarding evaluation of flow-related hydropower impacts.

The National Marine Fisheries Service, as well as other interested state and Federal agencies typically recommend that IFIM studies be conducted prior to licensing, and that minimum flow requirements imposed on licenses by FERC be based upon the results of these studies.

In very rare cases, where a complete IFIM study may not be appropriate or necessary, the National Marine Fisheries Service has approved the employment of less intensive methods. However, these less intensive methods are reconnaissance in nature, and do not provide the level of detail regarding potential impacts that is required for most hydropower project evaluations.

2) Would a Federally-sponsored program be appropriate?

Such a program is currently being conducted by the U.S. Fish and Wildlife Service.

3) What other suggestions do you have to prevent conflicts in this area?

Conflicts arising from the use of the IFIM generally result from: 1) differences between the fish and wildlife agencies and FERC regarding resource habitat requirements; 2) misapplication of the method by hydropower developers or consultants; 3) unwillingness on the part of developers to spend the money for the studies, or; 4) unwillingness on the part of developers to accept study results indicating that a particular site is not suitable for hydropower development due to conflicting water use priorities.

As a means of preventing conflicts between FERC and the resource agencies we suggest:

a) That FERC, rather than promulgating unilateral rules for implementation of section 10(j) of the Federal Power Act, revisit the Memorandum of Understanding discussed in our testimony

b) That FERC require that applicants conduct agency-recommended studies and collect necessary project-specific information early in the prelicensing phase of consultation. As stated in our testimony, FERC, rather than base licensing decisions upon an adequate record of potential environmental impacts, often either defers development of that record until after a license has been issued, or ignores agency requests for studies needed to develop the record. Such was the case for the Salmon River Basin, Idaho, projects (FERC Nos. 7225, 7299, 7300, 7301, 7334, 7340, 7378, 7380, 7383, 7589, 7899), where FERC has yet to require conduct of instream flow studies.

c) Finally, we suggest that the Office of Hydropower Licensing staff develop expertise in fishway design and engineering. This would alleviate much of the misunderstanding and conflict concerning fishway facility design and operation, and would aid in the development of appropriate license conditions.

APPENDIX II

Additional Material Submitted for the Record

Confederated Tribes and Bands
of the Yakima Indian Nation

Established by the
Treaty of June 9, 1855

October 25, 1989

Senator Bill Bradley
Chairman, Subcommittee on Power and Water Resources
of the Committee on Energy and Natural Resources
Senate Office Building
United States Senate
Washington, D.C. 20515

Dear Senator Bradley:

The Confederated Tribes and Bands of the Yakima Indian Nation are pleased to have the opportunity to submit written testimony with respect to oversight of the Electric Consumers Protection Act of 1986. As you are aware, the Act recognized certain federal obligations regarding Indian tribes that must be carried out in the hydroelectric licensing process. With certain background information, our comments focus on these sections of the Act.

Sincerely,

Jeanette Lee

Jeanette Lee
Legislative Committee

Post Office Box 151, Fort Road, Toppenish, WA 98948 (509) 865-5121

Hearings on Oversight of the Electric Consumers' Protection Act of 1987
Testimony of the Confederated Tribes and Bands of the Yakima Indian Nation

I. Introduction

Indian tribes stand in a unique position with respect to hydroelectric development and its effects. The Yakima Indian Nation has occupied the lands which now comprise the Yakima Indian Reservation over ten thousand years. The Yakima Reservation encompasses some 1.3 million acres. Historically the tribes and bands of the Yakima Nation exercised dominion and control over approximately 9 million acres of land in what is now the State of Washington. The Yakima Reservation was established by treaty between the United States and the tribe in 1855. The treaty reflects a reservation of rights by the Yakima Nation, rather than a grant of rights from the United States. See generally, F. Cohen, Handbook of Federal Indian Law, 232-241, 444 (1982 ed.) (discussing tribal sovereignty and treaty fishing rights).

The homeland of the Yakima Indian Nation is inestimable in its value to the Yakima people. In particular, the traditional fisheries of the Yakima people were and are a focal point in matters affecting the economic and social well-being of the tribe. In the words of the United States Supreme Court,

> [t]he right to resort to the fishing places in controversy was a part of larger rights possessed by the Indians, upon the exercise of which there was not a shadow of impediment, and which were not much less the existence of the Indians that the atmosphere they breathed.

United States v. Winans, 198 U.S. 371, 381 (1905)(addressing Yakima treaty fishing rights). Hydroelectric project development, however, has pervasively altered the Columbia River Basin, within which lies the Yakima Reservation. Historically, the Columbia Basin supported runs of 10 to 16 million salmon. Today, about two and one-half million adult salmon return to the Columbia and its tributaries. As determined by the Northwest Power Planning Council, the primary causes of this decline are the Basin's hydroelectric projects, which constitute the world's largest integrated hydroelectric system. See generally H.R. Rep. No. 96-976 Pt.I (Commerce) 96th Cong. 2d Sess. 45-49 (1980) (addressing hydropower impacts to salmon).

This testimony is directed to several issues of importance to the Yakima Indian Nation. First, to avoid contentious litigation, the Federal Power Act (FPA) requires the Federal Energy Regulatory Commission (FERC) to affirmatively enquire into all relevant facts and deal with river systems in a comprehensive manner. Second, it is critical that FERC abide by the spirit of the ECPA amendments and deal with Indian tribes on a government-to-government basis in the hydroelectric licensing process. Third, to carry-out this endeavor, FERC must consult with Indian tribes and direct project applicants to also consult with Indian tribes. These concerns arise in part because of FERC's recent regulations on hydroelectric project relicensing.

II. The Federal Power Act Requires Coordinated Studies and Comprehensive Plans.

"Congress' commitment to coordinated study and comprehensive planning along an entire river system before hydroelectric projects are authorized is a central feature of the Federal Power Act." National Wildlife Federation v. FERC, 801 F.2d 1505, 1507 (9th Cir. 1986). In this regard, the "Commission has an affirmative duty to inquire into and consider all relevant facts." Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466, 472 (9th Cir. 1984)(as amended). Subsequent to this and other extensive litigation, to which Indian tribes were parties, Congress amended the FPA by enacting Electric Consumers Protection Act (ECPA). The ECPA amendments specifically require the Commission to consider "[t]he extent to which the project is consistent with a comprehensive plan (where one exists) for improving, developing, or conserving a waterway or waterways affected by the project." 16 U.S.C.A. § 803(a)(2). The ECPA amendments further require the Commission to "consider . . . the recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project" to ensure the project is best adapted to a comprehensive plan for a waterway. 16 U.S.C.A. § 803(a)(2)(B) (Supp. 1989). The weight of this comprehensive planning authority charges FERC with many responsibilities, State of California v. FERC, No. 87-7538, 1989 U.S. App. Lexis 7943 (9th Cir. filed June 6, 1989), which must be fulfilled in the licensing process, Harriet LaFlamme v. FERC, 852 F.2d 389 (9th Cir. 1988)(as amended).

Fisheries resource management and hydropower licensing are inextricably intertwined in the Pacific Northwest where approximately 40 percent of the installed hydropower capacity in the United States is located. Due to the preponderant effects of hydropower on the fishery resources of the Northwest, various governments, including the Yakima Indian Nation, have struggled mightily to deal with the management complexities engendered by the dams. Gravel-to-gravel management of the salmon resource from Idaho to southeast Alaska is affected by the hydropower projects of the Pacific Northwest. For example, efforts to mitigate summer chinook salmon stocks above Douglas County Public Utility District's Wells Dam on the Columbia River may be hampered if Canadian fisheries intercept unduly high numbers of these fish. Controlling such interceptions can impact salmon fisheries along the Pacific Coast from northern California to Sitka, Alaska.[1]

The interests, authorities, and responsibilities of affected Indian tribes are significant factors in any effort to achieve "comprehensive planning along an entire river system." National Wildlife Federation v. FERC at 1507. In the Pacific Northwest, planning processes, such as those required by the Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C.A. § 839 et seq. require consistency with legal authorities and management objectives of Indian tribes. 16 U.S.C.A. 839b (h)(6). To achieve this end under the Northwest Act, recommendations of affected Indian tribes must be solicited and tribes must be consulted. 16 U.S.C.A. §§ 839b(h)(2), (h)(11)(B). Such practices are sound public policy, in addition to being required by federal law. [2]

Failure to fully address the needs and concerns of Indian tribes in a relicensing process would undermine any argument that the project is best adapted to a comprehensive plan of waterway development. On the other hand, an application that resolves as many fisheries, wildlife, and other resources issues as possible undoubtedly will facilitate the relicensing process. Whether resolution of resource issues involves agreement to study processes, mitigation, or other requirements, these matters are often best determined in a consultative framework where relevant resource managers and potential applicants can reach agreement.

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[1] Indian tribes and other fishery managers are aided in regulating their fisheries by the Pacific Salmon Treaty between the United States and Canada initialed and ratified in 1985. Domestic implementing legislation squarely recognizes the important interests and roles of Indian tribes in fishery management. 16 U.S.C. 3632 & 3633 (setting forth composition and authorities of Pacific Salmon Commission).

[2] Tribes can now be the primary regulatory authority for provisions of the Clean Water Act, 33 U.S.C.A. § 1377, the Safe Drinking Water Act, 42 U.S.C.A. §§ 300h-1(e), 300j-4, the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C.A. § 136u, and the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund), 42 U.S.C.A. § 9626. Authority and responsibility to co-manage natural resources impacted by Commission projects has also been well established by the Courts. See e.g. Sohappy v. Smith, 302 F.Supp. 899 (D. Or. 1969), aff'd, United States v. Oregon, 529 F.2d. 570 (9th Cir. 1976); Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658 (1979); also see United States v. Winans, 198 U.S. 371 (1905); Seufert Bros. v. United States, 249 U.S. 194 (1919); Tulee v. Washington, 315 U.S. 681 (1942).

III. FERC Should Deal With Indian Tribes on a Government-to-Government Basis.

Indian tribes have from time-to-time found it necessary to confront the Federal Energy Regulatory Commission in the courts to obtain satisfactory protection of their legal interests. *E.g. Confederated Tribes and Bands of the Yakima Indian Nation v. FERC*, 746 F.2d 466, 472 (9th Cir. 1984)(as amended). A preferable course of action, however, lies in careful efforts to coordinate and consult among the FERC, project applicants, resources agencies, and Indian tribes. These processes allow the parties to identify and resolve their concerns before, not after, taking final administrative action. Past failures to address tribal and resource agency concerns at the pre-application stages of licensing processes have resulted in prolonging final solutions and created undue contentiousness among FERC, the applicants, Indian tribes, and resource agencies.

The ECPA amendments to the Federal Power Act require the Commission to "solicit recommendations from . . . Indian tribes . . . for proposed terms and conditions . . . for inclusion in the license." 16 U.S.C.A. § 803(a)(3). Moreover, the ECPA amendments require the Commission to "consider . . . the recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project" to ensure the project is best adapted to a comprehensive plan for a waterway.[3]

These amendments were intended to improve what had often been a bitter relationship between the Commission, Indian tribes, and applicants. As noted by Senator McClure, "[t]he expensive litigation and other disruptions can be reduced by allowing tribal representation and respecting tribal interests *at the beginning* and throughout the decision process." 132 Cong. Rec. S15,843 (daily ed. Oct. 10, 1986)(emphasis added). The provision that requires the Commission to consider the views of Indian tribes "was added in recognition that Indian tribes often have a high degree of concern and unique interests in hydroelectric licensing proceedings and can make important contributions." H.R. Rep. No. 99-934, 99th Cong., 2nd Sess. 22 (1986) (ECPA Conference Report). In short, the amendments were intended to "grant the tribes a seat at the decisionmaking table." 132 Cong. Rec. S15,843 (daily ed. Oct. 10, 1986)(Statement of Senator Evans).

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[3] The ECPA amendments also require the Commission to consider "[t]he extent to which the project is consistent with a comprehensive plan (where one exists) for improving, developing, or conserving a waterway or waterways affected by the project." 16 U.S.C.A. § 803(a)(2). The Commission has recognized that the Columbia River Fish Management Plan approved by Judge Marsh in the *U.S. v. Oregon* litigation is such a comprehensive plan. *U.S. v. Oregon*, 666 F.Supp. 1461 (D.Or. 1987). A fundamental tenet of that plan is the co-management authority and responsibility of the tribes that are a party to that litigation.

ECPA modified both sections 803 and 808 of the Federal Power Act. In section 808(c)(1) Congress required applicants to file their applications with the Commission by certain deadlines and to consult with fish and wildlife agencies mentioned in section 808(b). In section 803(a), Congress required the Commission to solicit and consider the views of various resource agencies and Indian tribes. The modifications to sections 808 and 803 were intended to be construed together, so that "the requirements of section [803] apply and are considered in relicensing proceedings under section [808]." H.R. Rep. 99-934, 99th Cong. 2d Sess. 26 (September 30, 1986).

In its recent rulemaking, the FERC would require that prospective applicants be required to consult with various state and federal resource agencies, in particular those agencies enumerated at section 803(a)(2)(B).[4] In effect, the Commission melded the provisions of 803(a) and 808(c) to require applicants to consult with numerous state and federal resource agencies in addition to the fish and wildlife agencies referred to in section 808(b). Slip Op. at 52, 18 C.F.R. §§ 16.8(a)(1), 16.2(d) (state water resource management agencies, interstate resource agencies, and the U.S. Environmental Protection Agency added). In so doing, however, the Commission excluded Indian tribes from the consultation processes.

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[4] Section 803(a)(2)(B) reads as follows:

> The recommendations of Federal and State agencies exercising administration over flood control, navigation, irrigation, recreation, cultural and other relevant resources of the State in which the project is located, and the recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project.

The definition of "resource agency" appearing in the proposed and final rule is almost indistinguishable from the words enumerating federal and state agencies that appear in section 803(a)(2)(B). The main distinction is that the final rule added to the § 803(a)(2)(B) list interstate agencies and water resource management agencies, and deleted from the statutory list the reference to Indian tribes. 18 C.F.R. § 16.2(d), 54 Fed. Reg. 23,756, 23,806 (June 2, 1989). At 18 C.F.R. § 16.8(a)(1) the Commission added the U.S. Environmental Protection Agency to the list of agencies that must be consulted.

IV. The Purposes of Consultation Will Be Frustrated If Applicants Are Not Required To Consult with Indian Tribes.

The Commission's three-stage consultation process is generally intended to ensure prompt and responsive consultation that would result in the timely filing of complete applications. Even though the Federal Power Act requires consultation with Indian tribes and gives Indian tribes a say in what must be included in a complete application, the Commission, however, has refused to require applicants to consult with tribes as part of the pre-application process. Thus, expeditious and responsive consultation will not occur, and many applications may be untimely and incomplete as the result of the failure to require consultation with Indian tribes.

In our experience, successful pre-application consultations require a deliberative approach where the applicant and resource managers, including Indian tribes, discuss issues, identify any necessary studies to address those issues, and seek resolution based upon study results and resource management objectives. Fruitful efforts are not necessarily simply nor easily achieved. The resource managers and the applicant must thoroughly understand the resources, uncertainties, and management consequences at stake. Without input from Indian tribes affected by a project, FERC and the applicant will lack critical insight to properly assess the implications of impact risks to a group of people with unique concerns.

Examples abound where regulatory agencies have ignored impacts to Indian interests, resulting in severe encroachment upon the rights and well-being of Indian tribes. The effect of five private dams on the mainstem of the Columbia River has devastated some and cumulatively diminished other important tribal fisheries in the Columbia Basin. Even after passage of ECPA, FERC has issued licenses ignoring serious concerns raised by the National Marine Fisheries Service and the Warm Springs Tribe of Oregon, that the project could frustrate a multi-year planning effort undertaken by the Tribe, Oregon Department of Fish and Wildlife, Bonneville Power Administration, and others to restore salmon and steelhead in an area to be affected by the White River Project No. 7270. The license, now under appeal, would indefinitely defer resolution of fishery issues.

Despite Indian tribes' inherent sovereignty and significant natural resource management responsibilities and authority, the Commission refused to require applicants to consult with the affected tribes. This refusal is harmful both to Indian tribes and to the Commission's orderly processes.

V. Conclusion

The enactment of ECPA evidences Congress' interest in seeing FERC also recognize tribal sovereignty. Tribes are specifically delineated along with other governmental bodies in the ECPA amendments to the FPA, and FERC is directed to deal with tribes in language no less clear than the direction to deal with those other governmental entities. 16 U.S.C.A. §§ 803(a)(2)(B), (a)(3). ECPA and FERC's rules at 18 C.F.R. Part 16 establish a government-to-government relationship between FERC and numerous state and federal agencies involved with licensing of facilities under the FPA. The rules' exclusion of tribes from that formal government-to-government relationship runs contrary to the policies established by Congress in ECPA, and the general federal policy of self-determination and recognition of the inherent sovereign status of Indian tribes.

WESTERN STATES WATER COUNCIL

Creekview Plaza, Suite A-201/942 East 7145 South/Midvale, Utah 84047/(801) 561-5300 / FAX (801) 255-9642

September 26, 1989

The Honorable Bill Bradley, Chairman
Subcommittee on Water and Power
Senate Committee on Energy and Natural Resources
Dirksen Senate Office Building
Room 364
Washington, D.C. 20510

Dear Senator Bradley:

We have been informed that on September 28th the Subcommittee on Water and Power will hold a hydropower oversight hearing. We understand that the hearing will focus on the environmental review process under the Electric Consumers Protection Act to determine its effectiveness in protecting the public interest. Nevertheless, because of the importance of the issue to our members, we wish to provide you with information concerning conflicts between hydropower development and state water law. We hope that it will be given some consideration by the Subcommittee and that it will be included as part of the oversight hearing record.

The Western States Water Council has long been concerned over growing conflicts between the states and the Federal Energy Regulatory Commission with respect to water management in the West. We have been disturbed by the disregard for state authority and prerogatives displayed repeatedly by FERC. We hope the following examples will help explain this problem and illustrate our concerns.

Order No. 464

On February 11, 1987, FERC issued Order No. 464 and published a final rule retroactively implementing the order with the effect that state water quality certification requirements were deemed waived by FERC on some 227 hydropower projects in 32 states. Clean Water Act Section 401(a)(1) requires licensees to seek certification from the state in which a project will be located that the project will comply with the water quality provisions of the Act. States are given one year in which to certify that a project will comply with applicable water quality requirements.

Prior to the issuance of Order No. 464, FERC had interpreted Section 401(a)(1) to mean that the one-year certification period commenced once a state accepted a certification application as complete. Order No. 464 interpreted the section such that state certification is waived if the state certifying agency does not act on the certification request within one year of receipt of the request. Further, the order applied retroactively. In other words, states were precluded by the order from taking action on certification requests that had been pending for more than one year prior to February 11, 1987 regardless of the nature of the application the state had received. The FERC notice of proposed rulemaking implementing Section 401(a)(1) contained no provision addressing its retroactive application. The Office of Hydropower Licensing notified states of the impact of the decision only after the date for timely petitions for rehearing had passed. Later, the Commission summarily dismissed as untimely several state requests to reconsider the order.

In a recent case entitled City of Fredericksburg v. FERC (No. 88-3616, 4th Cir., filed June 12, 1989) the Fourth Circuit Court of Appeals vacated a FERC license which had been issued to the developer of one of the projects for which state certification was retroactively waived under Order No. 464. The developer had refused to complete a state water quality certification application form. The court found the developer had never made a valid request for certification under FERC regulations. It rejected FERC's argument that FERC was free to break its procedural rules in licensing the project because the rules were designed for the agency's benefit. Rather, the court held the rules were designed to benefit state and local governments "by discouraging prospective licensees from thwarting state administrative procedures." "More importantly," the court continued, "by allowing states to prescribe the method of filing certification requests, the regulation also aids the states in obtaining the information necessary to act on requests from prospective licensees."

Because the case involved a project for which FERC claimed water quality certification was waived by its retroactive application of Order No. 464, the City of Fredericksburg decision provided a means to correct FERC's waiver of state water quality authority under the order. The Fourth Circuit reasoned that FERC's own regulations envision a meaningful state role in assuring that FERC-licensed projects will comply with applicable water quality laws. Indeed, as noted, the court rejected arguments that the regulations were internal "housekeeping" rules and found that the regulations "confer a benefit upon the states, and...their political subdivisions" with respect to the hydropower licensing process. In essence, the court concluded that, when a request for certification is made, state procedures must be followed and that such procedures cannot be unilaterally waived by FERC.

FERC Chairman Martha O. Hesse, however, has a different view of the decision in City of Fredericksburg as it pertains to FERC Order No. 464. In a September 12 letter to Congressman John

Dingell, Chairman of the House Energy Committee's Subcommittee on Oversight and Investigations, she responded to Chairman Dingell's question as to whether Order No. 464 would be reconsidered in light of the City of Fredericksburg decision, as follows:

> The court did not address the meaning of "request" under Section 401(a)(1) of the Clean Water Act, and did not address the retroactive application of the waiver rules in Order No. 464. Rather, it focused on conformance with the Commission's waiver rules. Thus, the court's opinion provides no grounds for reconsideration of Order No. 464. (A copy of this letter is enclosed.)

It simply confuses the issue to point out that the court did not specifically address the statutory definition of the term "request" under Clean Water Act Section 401(a)(1) and that it focused on compliance with FERC's waiver rules. The point is that the court invalidated the retroactive application of the waiver rule in Order No. 464 as applied to the project in question, on the basis that the applicant did not comply with state certification procedures. Thus, the court's holding strikes at the heart of the retroactive application of the order and calls into question many of the other 226 cases impacted by the order. It is therefore preposterous to conclude that the court's opinion provides "no grounds for reconsideration of Order No. 464."

FERC apparently sees the state role in certifying water quality compliance of hydroprojects as limited to whatever the Commission, in a given instance, thinks that role should be - even to the extent of licensing a project where a developer has refused to attempt to complete its water quality certification application. This is similar to the FERC view with respect to many water quantity matters. We view the states' role in certifying water quality compliance as substantive and important, one which should be based on appropriate data and be carried out in conformance with state laws and administrative procedures. The Federal Power Act contemplates this role. FERC's regulations specify it. After Order No. 464 was issued, many states attempted to bring to FERC's attention that the order was inconsistent with an appropriate state role. Both Houses of Congress sent FERC a similar message in the last session. The City of Fredericksburg court squarely brought this to the Commission's attention again. Yet, the Commission Chairman sees "no grounds" in the opinion for reconsideration of the order.

Rock Creek

On March 11, 1987, FERC issued a declaratory order regarding the Rock Creek Limited Partnership (Project No. 3189-014) in California claiming for itself sole jurisdiction to establish flow releases in conjunction with hydropower development. In Rock Creek the California Water Resources Control Board conditioned the water right necessary to develop the project by requiring minimum flow releases greater than those required by FERC. FERC in its order stated, "The imposition of minimum flow releases for fishery protection and other purposes is...a matter beyond the reach of state regulation." The California Water Resources Control Board was not included as a party in the FERC proceedings. FERC did not directly notice the Board of its decision. The Board received the order after it was rendered as part of a regular informational mailing. California's petition for rehearing of the order was denied. California appealed this decision in a suit in the Ninth Circuit Court of Appeals, which ruled against it, and is now petitioning the Supreme Court to review the case. At least 35 states plan to file a friend of the court brief urging the Supreme Court to grant a discretionary writ to review the matter. The Western States Water Council passed a resolution urging that the case be reviewed. A copy of that resolution is enclosed.

Horseshoe Bend

On January 25, 1988, FERC issued an Order denying Idaho's request for rehearing in the Horseshoe Bend Hydroelectric Co. case (Project No. 5376-002), where FERC refused to include provisions in its project permit subordinating the developer's water right to upstream water uses. The Order granting the license was originally issued July 30, 1986. The Idaho Department of Water Resources had granted Boise Cascade Corporation a water right in conjunction with development of the project which was subordinated to future upstream diversions. Rather than follow suit, FERC rejected the subordination and instead claimed for itself authority to control all future diversions upstream from the project. The Commission stated, "We must retain our ability to modify project operations to take into account future circumstances...[The Idaho Department of Water Resources] can petition the Commission at any time to have us exercise our authority...[we] will act on the request after considering all supporting documents and information..."

Idaho had pointed out that this anomalous result was contrary to congressional intent as manifested in the Federal Power Act. By giving a hydropower developer a "call" on an entire river system, FERC enthroned itself as a supreme water resource management agency. FERC placed itself in the position of attempting to make water use decisions in situations which have nothing to do with generation of electricity and which require the balancing of local public interest concerns, water availability, and protection of the environment and aesthetics which are clearly the prerogative of state agencies under state law. We believe FERC has neither the authority, the capability, nor the staying power to initially make such decisions, much less administer or implement them in the long run. Keith Higginson, former Commissioner of the Bureau of Reclamation and current Director of the Idaho Department of Water Resources, described this situation by observing, "FERC's control is being asserted over river basins that they have only seen on a map," the names of which they, "cannot spell or even pronounce...."

This brief list of illustrations inadequately represents the nature of the challenge faced by the states with respect to FERC's hydropower licensing activities, but hopefully it conveys the essence of the problem. Other examples could be provided to demonstrate FERC's disregard of the states' responsibility to manage water resources. The member states of the Western States Water Council have found it difficult to change this situation. Repeated Council requests for improvement have engendered few, if any, substantive modifications in the way FERC conducts the business of hydropower licensing. We notice, as well, that FERC has ignored the message sent by both the Senate and the House in the last session of Congress in passing legislation requiring reconsideration of Order No. 464. We call for legislation to remedy the problem caused by Order No. 464. Also, legislation to correct the underlying position of FERC in disregard of state water law may be necessary if the Supreme Court does not remedy the situation in the context of the Rock Creek case.

Sincerely,

Craig Bell

D. Craig Bell
Executive Director

Enclosures

cc: Senator James McClure

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON D C 20426

CHAIRMAN

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September 12, 1989

Honorable John D. Dingell
Chairman, Subcommittee on Oversight
and Investigations
Committee of Energy and Commerce
House of Representatives
Washington, D.C. 20515

Dear Chairman Dingell:

Thank you for your letter of July 31, 1989, requesting my response to a number of matters concerning the Commission's retroactive application of Order No. 464, which applies the waiver provision for water quality certification under Section 401(a)(1) of the Clean Water Act.

You ask whether Order No. 464 will be reconsidered in light of the court's opinion in City of Fredericksburg, Virginia v. FERC, 4th Cir. No. 88-3616 (June 9, 1989). In that case the Commission deemed the hydroelectric license applicant's request for water quality certification to have been waived, because the certifying agency, the Virginia State Water Control Board, did not act on the request within one year of receiving it. The Commission subsequently issued the applicant a license. The court reversed the license issuance, based on its determination that the applicant had not made a "request for certification" within the meaning of the Commission's regulations, which provide that such requests be made "in accordance with applicable law governing filings with that agency." 18 C.F.R. § 4.38(c)(2) (1988).

The court did not address the meaning of "request" under Section 401(a)(1) of the Clean Water Act, and did not address the retroactive application of the waiver rules in Order No. 464. Rather, it focused on conformance with the Commission's waiver rules. Thus, the court's opinion provides no grounds for reconsideration of Order No. 464.

Next, allow me to explain why the Commission continues to ask that you withhold certain pre-decisional documents from public disclosure even after the Commission has reached a final decision. As I advised you in my letter dated March 14, 1989, these documents are protected by the deliberative process privilege. Courts have uniformly recognized that the deliberative process privilege protects pre-decisional documents even after a decision has been made. NLRB v. Sears, Roebuck & Co., 421 U.S. 132, 105-52 (1975), and cases cited therein; Cuccaro v. Secretary of Labor, 770 F.2d 355, 357-58 (3d Cir. 1985). One purpose of the privilege is to protect the decisionmaking process from the inhibiting effect that disclosure of pre-decisional advisory opinions and recommendations might have on "the 'frank discussion of legal or policy matters' in writing." NLRB v. Sears, Roebuck & Co., 421 U.S. at 150 (quoting S. Rep. No. 813, 89th Cong., 1st. Sess. 9 (1965)). Disclosing these communications after the Commission has issued a final decision would tend to chill candid discussion nearly as much as would contemporaneous disclosure. Furthermore, the deliberative process privilege also seeks to preserve the integrity of agency decisions by preventing intrusion into the mental process leading to a decision and to protect against public confusion that might result from disclosure of reasons and rationales that were not in fact ultimately the grounds for an agency's action. The underlying rationales for this privilege have continued vitality even after the Commission has acted.

Finally, you ask for a response to correspondence, attached to your letter, from the Western States Water Council, the Maine Department of Environmental Protection, the Vermont Department of Environmental Conservation, and the Audubon Society of New York State, Inc.

In its May 2, 1989, letter to you, the Western States Water Council supports legislation to reverse the Commission's retroactive application of Order No. 464 with regard to licenses not yet issued. The Council asks that the Commission be required to explain the manner in which state water quality comments were solicited prior to licensing, and the extent to which state recommendations were followed.

As I described in my letters to you dated December 15, 1988, and March 14, 1989, Order No. 464 directed the Commission staff to notify state certifying agencies that, in the case of projects where Order No. 464 had the effect of deeming certification to have been waived, the agencies had about four months to submit comments and recommendations on water quality, which the Commission would carefully consider when developing license conditions for these projects. As is described in Appendix B of my March 14, 1989, letter to you, the licenses in this category that were issued over the next two years included conditions embodying 93 percent of the state certifying agencies' recommendations. Rejected conditions usually dealt with matters not specifically related to water quality, such as construction and operation plans.

The Council also seeks clarification that the requirement that a state certifying agency must act on a certification request within one year does not also refer to the agency's action on an appeal of its initial grant of denial of certification. The Council's understanding of the type of agency action covered by the one-year waiver provision is consistent with the Commission's orders on the subject.

In its March 13, 1989, letter to you, the Maine Department of Environmental Protection supports legislation to reverse the retroactive waivers effectuated by Order No. 464, at least with respect to license applications still pending, although it states that it has no substantive dispute with the impact on water quality of the affected licenses issued in Maine so far.

The Vermont Department of Environmental Conservation, in its March 2, 1989, letter to you, also supports legislation on this issue, but wishes the legislation to reverse waivers for issued licenses as well. The Department states that, following the retroactive waiver of their water quality certification, the Commission has licensed four projects in Vermont. While the Department found that the Commission generally incorporated license articles which paralleled the conditions in the state's certifications, it stated that some subjects were not covered. The enclosed staff report discusses the Department's concerns regarding these subjects.

The Vermont agency also expresses concern that the Commission may not adequately enforce the water quality conditions in its licenses. As you know, in February 1988, the Office of Hydropower Licensing was reorganized to improve the Commission's enforcement efforts with respect to licensed and exempted projects and to effectively implement the strengthened compliance and enforcement provisions of the Electric Consumers Protection Act. The Division of Project Compliance and Administration, which is responsible for this program, fully appreciates the importance of project operators' compliance with requirements imposed to protect water quality. I therefore believe that Vermont's concerns on this point will prove to be unwarranted.

The Audubon Society of New York State wrote you on March 27, 1989, opposing the retroactive application of Order No. 464 and objecting to the licensing of three New York projects for which water quality certification was thus waived: the Sissonville Project No. 9260, the Fine Project No. 9694, and the Eddyville Falls Project No. 9175 (which it incorrectly identifies as Project No. 9871). The Audubon Society asserts that these projects, "if built as proposed, will destroy very valuable cultural, scenic, and recreational resources." The Audubon Society's concerns regarding these projects therefore involve much more than the issue of water quality. The enclosed staff report discusses the Audubon Society's comments regarding these three projects.

I appreciate your continuing attention to the Commission's hydropower program. As always, if I may be of further assistance on these matters, please let me know.

Sincerely,

Martha

Martha O. Hesse

Enclosure

cc: Honorable Thomas J. Bliley, Jr.
Ranking Minority Member
Subcommittee on Oversight
and Investigations

Honorable Philip R. Sharp
Chairman
Subcommittee on Energy and Power

Mr. John D. Echeverria
Counsel
American Rivers, Inc.

Mr. D. Craig Bell
Executive Director
Western States Water Council

Enclosure

Response to Letter of July 31, 1989, From Chairman Dingell Regarding Comments of the Vermont Department of Environmental Conservation and the Audubon Society of New York

Vermont Department of Environmental Conservation, Letter dated March 2, 1989

The Vermont Department of Environmental Conservation, in its letter to Chairman Dingell, states that the four licenses for projects in Vermont for which water quality certification was waived pursuant to Order No. 464 generally incorporated the conditions which Vermont had placed in its certifications. However, Vermont believes that certain areas received insufficient attention in the licenses.

Vermont states that it had conditioned the certification for the Tolles Hill Project No. 7932 to protect a public beach that is located in the construction area, but that the license "gave this issue no special consideration." The Director of the Office of Hydropower Licensing (Director) issued a license on January 7, 1988, to Warren H. Taylor for Project No. 7932, to be located on the Black River in Windsor County, Vermont, at the site of a dam owned and operated by the U.S. Army Corps of Engineers (42 FERC ¶ 62,003). The State of Vermont intervened in the proceeding, but no appeal was filed. Except for part of the transmission line, the licensed works are located within the Corps' North Springfield flood control reservoir. Because of this, the license requires the licensee to coordinate closely with the Corps with regard to the construction and operation of the licensed project. Among other things, license article 306 requires the licensee to enter into an agreement with the Corps to coordinate plans for access to and site activities on lands and property administered by the Corps, including the terms and conditions under which the licensee shall conduct construction activities. Consequently, the mitigation of any construction-related impacts should be a subject of the Corps' supervision.

Vermont states that it had asked for a comprehensive post-project water quality study to further define the Chace Mill Project's effect on the assimilative capacity of the Lower Winooski River, but that the Commission "merely required monitoring of oxygen and nitrogen for two years." The Commission issued a license on November 3, 1988, to the City of Burlington Electric Department and the Winooski One Partnership for the Chace Mill Project No. 2756, to be located on the Winooski River in Chittenden County, Vermont (45 FERC ¶ 61,206). The license requires much more than monitoring of oxygen and nitrogen levels in the river. License article 407 requires the licensees, after consultation with the Vermont Agency of Natural Resources (of which the Department of Environmental Conservation is a part), to develop a plan to ensure that operation of the project will not cause violation of the state water quality standards nor cause nitrogen gas supersaturation. If at any time the monitoring program indicates that project operation reduces downstream dissolved oxygen concentration to levels below the state standards or that spillage causes nitrogen gas saturation levels to exceed 117 percent, then article 407 requires the licensees to implement immediately whatever measures are necessary to comply with the state standards or reduce the level of nitrogen gas to below 117 percent saturation. In addition, the article requires the licensees to notify immediately the Vermont Agency of Natural Resources and the Commission's regional office of any project violation of the dissolved oxygen standard or of excessive nitrogen gas saturation, and to file within two months a description of and timetable for changes to project structures or operation that are needed to maintain oxygen and nitrogen concentrations at the appropriate levels. The licensees must include the comments on the proposal of the Vermont Agency of Natural Resources. Thus, the project will not be allowed to violate state standards regarding the assimilative capacity of the river.

Vermont is concerned that all four projects are allowed to disregard minimum flow requirements under undefined operating emergencies. Since such incidents have the potential for resulting in the destruction of aquatic biota, Vermont seeks a precise definition of what constitutes an operating emergency, and special restrictions on this type of event. The standard article to which Vermont refers states that a licensee may temporarily modify minimum flows "if required by operating emergencies beyond the control of the licensee, and upon mutual agreement with" the appropriate agencies, which in the case of Vermont is the Agency of Natural Resources. An operating emergency is therefore a situation beyond the control of the licensee, in which case "restrictions" would be ineffectual. In all other situations, the licensee must obtain the agreement of the appropriate agency or agencies. What is an appropriate situation in which to modify temporarily minimum flow requirements is a matter for case-by-case resolution by the licensees and agencies.

Finally, Vermont is concerned that water management plans for the project construction period are not specifically required in the licenses, and voices particular concern regarding dewatering during construction and initial impoundment filling. The Tolles Hill Project No. 7932 and the Jamaica Project No. 8433 are located at Corps dams (Project No. 8433 is located on the West River in Windham County at the Corps' Ball Mountain Dam). Therefore, as described above, these licensees' construction activities will be subject to the Corps' supervision.

The Fair Haven Project No. 9541, located on the Castleton River in Rutland County, Vermont, will use two existing dams. The environmental assessment, which is attached to the license order (42 FERC ¶ 62,146), states that during construction removal of the sediment from the forebay and tailrace would be done in the dry, using steel pilings to dewater the specific area of excavation, and would not affect water quality. The steel pilings would be located parallel to the existing gate structure of the existing dam, an arrangement that would allow all flows to spill by the dewatered forebay. After construction of the intake, the gate would be closed while the steel pilings are removed; then the gates would be opened slowly to minimize the release of sediment. Filtration barriers would be placed downstream during construction as necessary. To minimize the effects of any increase in turbidity, construction in the forebay and tailrace areas would be planned to begin during May, before water levels become low.

The Chace Mill Project will construct a concrete structure adjacent to an existing timber crib dam. The environmental assessment attached to the license order discussed possible impacts to water quality from construction-induced turbidity and sediment increases as well as from the need to dewater areas temporarily. Accordingly, license article 401 requires the licensees, after consultation with the Vermont Agency of Natural Resources, the Soil Conservation Service, and the U.S. Fish and Wildlife Service, to submit for Commission approval a comprehensive plan to control erosion and dust and to minimize the quantity of sediment or other potential water pollutants resulting from project construction, spoil disposal, and operation. (This article is also in the licenses for Project Nos. 7932 and 8433.) Additionally, license article 403 requires the licensees to consult with the Vermont Agency of Natural Resources in developing a water management plan for the maintenance of existing flows in the Winooski River downstream of the project during the construction period, to prevent degradation of water quality and to protect fish and wildlife resources of the project area.

Audubon Society of New York, letter of March 27, 1989

The Director issued a license on May 20, 1988, to Adirondack Hydro Development Corporation for the Sissonville Project No. 9260, to be located at a breached dam on the Raquette River in St. Lawrence County, New York (43 FERC ¶ 62,203). In its letter to Chairman Dingell, the Audubon Society questions the project's economic feasibility and the adequacy of dissolved oxygen at the site, and opposes the elimination of a stretch of rapids used by recreational boaters. A group of organizations, including the New York Audubon Society, filed for intervention in this proceeding fourteen months late. The intervention request raised no water quality issues; rather, it addressed issues regarding whitewater recreation. The late intervention request was denied, and the group did not seek rehearing of the denial. The license is now final and unreviewable.

The Director issued a license on June 30, 1987, to Power Resources Development Corporation for the Fine Project No. 9694, to be located on the Oswegatchie River in St. Lawrence County, New York (39 FERC ¶ 62,377). In its letter to Chairman Dingell, the Audubon Society asserts that the project would destroy newly discovered whitewater recreational resources and that the license application was deficient in its assessment of project impacts. The New York Audubon Society did not file to intervene in this proceeding. However, currently pending before the Commission are appeals of the license order which raise these issues.

The Commission issued a license on June 30, 1989, to Rivers Electric Company for the Eddyville Falls Project No. 9175, to be located at an existing dam on Roundout Creek in Ulster County, New York (47 FERC ¶ 61,464). In its letter to Chairman Dingell, the Audubon Society questions the project's economic viability and the adequacy of the application, and expresses concern over the licensee's current lack of ownership of the site and the effect that it expects the project will have on the "woodsy character upstate New York once offered ... ." The Audubon Society did not file to intervene in this proceeding. However, pending before the Commission is a rehearing request filed by intervenors raising these issues.

ONE HUNDRED FIRST CONGRESS

JOHN D. DINGELL, MICHIGAN, CHAIRMAN

GERRY SIKORSKI, MINNESOTA
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MICHAEL F. BARRETT, JR.
CHIEF COUNSEL/STAFF DIRECTOR

U.S. House of Representatives
Subcommittee on Oversight and Investigations
of the
Committee on Energy and Commerce
Washington, DC 20515

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PHONE (202) 225-4441

July 31, 1989

FILED
OFFICE OF THE SECRETA
89 AUG 10 PM12: 18
ULATORY COMMISSION

The Honorable Martha O. Hesse
Chairman
Federal Energy Regulatory Commission
825 North Capitol Street, N.W.
Washington, D.C. 20426

Dear Madam Chairman:

Since receiving your enclosed response of March 14, 1989 to my letter of February 3 concerning the Federal Energy Regulatory Commission's (FERC's) failure to, in fact, reexamine the retroactive application of Order No. 464 regarding water quality certification for hydro projects, I have become aware of the enclosed June 19, 1989 article in Inside F.E.R.C. The article refers to a recent court decision which seems to be relevant to this matter. I request that you review the matter in light of the decision and advise me whether or not you will reconsider the order.

I note your comment that you believe the staff memorandum you provided the Subcommittee should not be made public because of your claim of privilege. I am particularly troubled by your request for non-disclosure even after FERC has declined to reopen the matter. The memorandum clearly gives support to my view that the Commission's action (or more probably its "inaction") in this matter is quite arbitrary and not well-based factually. Yet you want us to prevent disclosure indefinitely. I find that difficult to accept. I request your comments.

Enclosed also are some letters I have received about this matter that, at best, call into question the Commission's inaction.

I request your response within 30 days after receipt of this letter.

Sincerely,

JOHN D. DINGELL
Chairman
Subcommittee on
Oversight and Investigations

Enclosure

cc: The Honorable Thomas J. Bliley, Jr., Ranking Minority Member
Subcommittee on Oversight and Investigations

The Honorable Philip R. Sharp, Chairman
Subcommittee on Energy and Power

Mr. John D. Echeverria, Counsel
American Rivers, Inc.

Mr. D. Craig Bell, Executive Director
Western States Water Council

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
concerning
the
Ninth Circuit Court of Appeals' Decision
in
California v. FERC (No. 87-7538)
July 20, 1989

WHEREAS, the authority to manage and administer water rights is critical to each of the western states; and

WHEREAS, the states have developed intricate and sophisticated water resource management programs; and

WHEREAS, the United States Congress has consistently deferred to those laws and programs; and

WHEREAS, the Federal Energy Regulatory Commission (FERC) has claimed exclusive jurisdiction over water resource management decisions related to hydroelectric power projects; and

WHEREAS, the Ninth Circuit Court of Appeals, in California v. FERC (No. 87-7538), has recently affirmed FERC's finding that it has exclusive jurisdiction to establish hydroelectric power project water flow rates; and

WHEREAS, this decision hampers the efforts of the western states to administer and manage water rights.

NOW THEREFORE BE IT RESOLVED that the Western States Water Council support California's effort to have the Ninth Circuit Court of Appeals decision reviewed by the United States Supreme Court;

BE IT FURTHER RESOLVED that the Council encourage all western states to express their support for California's petition for writ of certiorari in California v. FERC by either endorsing the amicus brief which will be prepared on behalf of the western states, or by preparing an individual state brief;

BE IT FURTHER RESOLVED that the Council staff be instructed to contact the Attorneys General and other appropriate officials of all western states, as well as appropriate contacts in non-western states, and encourage them to support California's effort to have the California v. FERC decision reviewed.

HARZA ENGINEERING COMPANY CONSULTING ENGINEERS

October 2, 1989

The Honorable Kent Conrad
United States Senate
Dirkson Building
Washington, D.C. 20510

Reference: Oversight Hearing on Hydroelectric Regulation under the Federal Power Act, September 28, 1989

Committee on Energy and Natural Resources
Subcommittee on Water and Power

Dear Senator Conrad:

I strongly endorse your position that the United States must develop its hydroelectric energy resources to their full potential. Each megawatt of hydroelectricity represents a necessary, clean, and renewable source of energy that will not contribute to global warming or acid rain.

Furthermore, I agree that it is time to redefine and streamline the permitting and licensing processes for hydroelectric development, as interpreted by the Federal Energy Regulatory Commission. Many utilities and independent producers are simply discouraged by this long, costly, and risk-filled process; they turn instead to development of less regulated thermal energy sources with accompanying environmental damage.

The pendulum has swung too far in favor of single-purpose special interests, including State and Federal agencies, who use the FERC permitting and licensing process for their own purposes without regard for the Federal Power Act. We share your position that all of our resources must be developed and protected wisely. New development of hydroelectric energy and relicensing of existing projects must give equal consideration to environmental protection. This does not mean that development should cease because environmental groups can intervene at any and all times throughout the regulatory process. In my opinion, this was never the intent of Congress.

Very truly yours,

D. J. Duck
President

DJD/cs

Enclosure

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WRITTEN STATEMENT OF

HARZA ENGINEERING COMPANY
CHICAGO, ILLINOIS

TO THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

OCTOBER, 1989

Mr. Chairman and Members of the Subcommittee:

The hydropower industry has expressed concerns, through the National Hydropower Association (NHA), to DOE's National Energy Strategy Hearings this summer. During these hearings, Deputy Energy Secretary, The Honorable Henson Moore, indicated that DOE will look at ways to streamline hydropower's licensing process. The Senate Committee on Energy and Natural Resources, Subcommittee on Water and Power, has provided another opportunity to address the FERC licensing process through its oversight hearing of September 28, 1989 on hydroelectric regulation under the Federal Power Act (FPA). This hearing provides public forum for addressing regulatory impacts of the Electric Consumers Protection Act (ECPA) of 1986 that have frustrated consideration of hydroelectric technology as an energy choice.

The following discussion summarizes Harza Engineering Company's position for consideration by the Subcommittee members.

HYDROPOWER IS A RENEWABLE AND UNDERDEVELOPED RESOURCE

Hydropower is a clean, safe, inexpensive, and efficient renewable source of electricity. This source of energy will become more important as we move into the 1990's. Hydropower provides several important benefits.

- Hydropower can be placed "on and off" line quickly providing peaking power and spinning reserve for a utility system, and it responds to swings in load demand and stabilizes voltage, improving system reliability. These characteristics improve the overall efficiency of fossil and nuclear plants and hence, a reduction in total fuel consumption and air pollution.

- Hydropower does not contribute to air pollution, acidification, or global warming and has no waste products.

- Hydropower facilities provide valuable multiple uses such as recreation, water supply, irrigation, flood control, and navigation.

Underdeveloped Resource

Today, hydroelectric power represents approximately 13 percent of the installed generation capacity in this country, with about 71,500 MW of capacity from conventional projects and 17,100 MW from pumped storage. There is significant additional hydroelectric capacity that could be developed to improve local and regional reliability of the U.S. electrical system.

The FERC staff estimates that the future potential for conventional hydroelectric and pumped storage capacity in the U.S. is 183,000 MW, which would double existing hydroelectric generation.
The staff's estimate for pumped storage overlooks the potential for underground pumped storage technology.

Underground pumped storage is a closed system with negligible environmental effects that uses a surface upper reservoir, like conventional pumped storage, but locates the lower reservoir and generating facilities below ground. Underground facilities could be located in existing inactive mine caverns or in caverns excavated in competent rock formations of sufficient depth. Estimates of the nationwide potential for underground pumped storage have not been prepared.

National Dependence On Oil

Due to growing electricity demand (2 to 4 percent per year) and the cancellation of many major nuclear and coal-fired plants, electric utilities are ordering a great number of combustion turbines. These turbines use oil or gas - a sharp increase of oil consumption has already taken place and will continue in the future. Many experts predict this practice will result in a quick return of oil price levels to $25 to $30 per barrel. Conventional hydropower or pumped storage is the best financial alternative to oil-fired generation. Harza Engineering Company's experience with many utilities indicates that the long and costly licensing process is the major stumbling block. Large funds need to be committed 10 to 12 years before power from a new project comes on line. Engineering and environmental costs and interest payments during a 4 to 7 year licensing period often drive hydroelectric power alternatives out of competition with combustion turbines which require only a 6 to 12 month licensing period.

In addition, open competition in generation between utilities, independent producers, and cogeneration does not always bring the best long term expansion plan for electrical customers. Quick short term return on investments seems to be the preferred approach. In this environment:

- Who will risk millions of dollars without knowing for 4 to 7 years whether a license will be granted or not?
- What national priority will be given to an alternative which does not rely on imported oil but is currently so overburdened by lengthy, costly, and complex licensing processes?

Current economic and financial analyses do not recognize these long term customer benefits.

THE CURRENT LICENSING PROCESS ENDANGERS HYDROPOWER DEVELOPMENT

Hydropower encounters the most complex, uncertain, and costly regulatory process after nuclear energy. The three stage agency consultation process, required by FERC under ECPA and its subsequent rule-makings, is open ended and vulnerable to intervention by agencies and special interests.

The ECPA legislation required FERC to give "equal consideration" to the purposes of energy conservation, the protection, mitigation and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality, in addition to power development purposes. At the same time, the legislation made clear that "equal consideration" did not require "equal treatment".

The FERC has tended to stray from balancing in case by case decisions. This tendency to stray from balancing has resulted in decisions which give greater weight, if not outright mandatory authority and veto power, to other federal and state agencies. Therefore, the decision making authority envisioned by ECPA for FERC is being decentralized into agencies with single resource responsibility and no statutory interest in hydroelectric development. FERC overall authority, as envisioned by ECPA, should be restored with these agencies, intervenors, and owners arguing their case before FERC and letting the FERC Commission make the final decision based on FERC's staff analysis of all arguments. Balancing (10j process) is conducted between the FERC staff, agencies, and intervenors behind closed doors; yet the owner is bound by the decisions. Frequently the owner is faced with adjudication of 10j decisions - expanding the time schedule, increasing costs, and delaying energy development.

Surrender of FERC responsibility to other federal and state agencies and intervenors creates confusion as to which agency has primary responsibility for a hydropower licensing program capable of meeting the current and future electric demands in an environmentally sound and reliable manner. Coupled with schedule and cost uncertainties, the tendency to stray to "equal treatment" amounts to installing barriers to hydroelectric development.

Timely Objection

Special interests are organized on a national basis and use the open ended licensing process and the National Environmental Policy Act (NEPA) reviews to interfere with favorable decisions made by local and other national entities. Intervention is frequently based on subjects of no real consequence and is designed to delay the license/permitting process with the intended eventuality that the owner may not proceed with his plan of development.

This represents distortion of the FERC/NEPA review process. NEPA does not require a federal agency to obtain all the information that is possibly available on a particular resource before that agency can decide what action it should take in a particular case.

The resulting agency appeals and interventions typically include allegations that a license was prematurely granted because the environmental review did not contain adequate information. Many of these appeals are frivolous and cost the owner large sums of money and FERC staff many hours in preparing responses to the allegations.

The delay caused at FERC and subsequent filings at the appropriate Circuit Courts of Appeal, frustrate attempts by licensees to get needed financing for the development of their projects. Also, agencies are using intervention to obtain funds and other mitigation and enhancement measures that would otherwise not be included in licenses and permits.

There is increasing evidence that state certifying agencies are overreaching their authority by including requirements that do not relate to water quality issues in their §401 water quality certifying process in an attempt to delay and consequently to discourage hydropower development. There have been several instances where the FERC sanctioned these conditions because they were attached to the water quality certificates. Such provisions are questionable under the Federal Power Act.

HARZA'S CONCLUSIONS AND RECOMMENDATIONS FOR CONSIDERATION

Completion of the licensing/permitting process with a favorable outcome has become difficult to predict. This regulatory uncertainty is translated to risk and assigned a cost that essentially precludes consideration of hydroelectric technology as a future energy choice. The following conclusions/recommendations are self evident:

- ECPA has seriously impacted long range planning for adequate water and energy resources.
- The danger exists of committing a large amount of oil and gas fired generation to meet short term needs; later this becomes a long term commitment and liability, in lieu of hydropower.
- Congress has given FERC a clear mandate to strike a balance among competing interests in developing water resources.

Decisions by FERC that result in the decentralization of this authority in issuing and conditioning hydroelectric power licenses undermines the FERC's ability to balance multiple uses.

- FERC often interprets the "equal consideration" standard in ECPA as an "equal treatment" mandate, a position advocated by special interest groups and state and federal resource agencies with single resource interests. FERC has treated power development values unequally by placing too much weight on fishery and/or recreation values at the expense of needed power, thereby transferring veto power to other state and federal agencies.

- Established time periods for public and agency comment must be enforced to eliminate the practice of intervenors to introduce unwarranted delays on the licensing/permitting process.

DOE's National Energy Strategy hearings and Congress' Oversight Hearings on FPA and ECPA are much needed. Together the hearings can develop an integrated public policy towards energy technology choices and identify the regulatory impacts on long range planning for hydroelectric generation and water supply. The hydropower industry looks to the Subcommittee to proceed with necessary Congressional action to protect hydroelectric technology as an energy choice.

MEMORANDUM

DATE: October 3, 1989

FROM: Ralph W. Kopansky, Elwha Dams Project
Lower Elwha Klallam Tribe

TO: Mr. William Conway, Senior Counsel
Senate Energy and Natural Resources Committee

RE: FERC Oversight Hearings
Written Testimony of Gerald Charles Sr.,
Chairman Lower Elwha Klallam Tribe

Attached herein is testimony to be presented to the Senate Energy and Natural Resources Committee FERC hearings. This tribe has been a victim of the FERC licensing process and symbolizes a situation which is detrimental not only to Indian tribes but all communities across this nation. The roots of institutional discrimination can come from many sources. The outcomes are sometimes subtle, sometimes blatant. They reflect a psychological attitude that sweeps through an organization without announcement, without warning. We view the conditions at FERC very seriously. We echo the frustration, shared, I am sure, by many other communities, with a governmental monument that moves without reference to the needs and uniqueness of individuals. If ignorance is a cause, then education about the public FERC serves should be the number one priority. If arrogance is the crippling cancer, it should be removed. We hope that the Committee will listen and be compassionate with Americans including Native Americans.

LOWER ELWHA TRIBAL COUNCIL

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THE FEDERAL ENERGY REGULATORY COMMISSION: A CASE OF PUBLIC DISCRIMINATION

Testimony To Be Presented Before:

Senate Committee on Energy and Natural Resources

Presented By:

Gerald Charles Sr., Chairman
Lower Elwha Klallam Tribe

Mr. Chairman, my name is Gerald Charles Sr. I am chairman of the Lower Elwha Klallam Tribe. We are located on the Olympic Peninsula, approximately 8 miles west of Port Angeles. We have a tribal enrollment of 525 members with an Indian service population of 1,099. Our reservation totals 800 acres in a checkerboard configuration. Part of our reservation lies in a flood plain adjacent to the Elwha River as it feeds into the Strait of Juan de Fuca.

Historically, we have relied on fishing for our livelihood. The disruption of fish harvesting resulting, 79 years ago, with the construction of the Elwha Dam, and the subsequent construction, in 1925, of the Glines Canyon Dam, shut off our primary source of 5 species of salmon and steelhead trout from a river which was considered one of the most productive salmon rivers in the United States. Fish weighing over 100 pounds were not unusual. The pristine environment, a rich habitat associated with a river with its headwaters in the Olympic National Park, created an optimum ecosystem.

For the S'Klallam Indian bands, and for our own Lower Elwha Band, the protection of access to this fishery was guaranteed in the

Treaty of Point No Point, signed in 1855. The river was an economic, subsistence, ceremonial resource. In our legends, the "center of the universe" is sited at the area on which is built the Elwha Dam.

The disintegration of a fishing culture has been painful for my people. Our unemployment and below poverty income level are mated at over 60 percent. Other employment opportunities are limited and the local economy is going through significant change. We have paid a heavy price with the presence of the dams. They have posed a physical, economic and emotional threat to our tribal community.

The Elwha and Glines Canyon dams were built without any permits. The provisions of the Treaty of Point No Point was never considered when they were constructed. The Elwha Dam was never licensed and the Glines Canyon dam was licensed but subject to renewal. Both dams are part of a hydropower unit that produces electricity for a single customer, Diashowa America and its paper mill in Port Angeles. While Diashowa argues that the dams are essential in order to allow it to remain economically competitive our tribe has lost annual income and a way of life.

Sixteen years ago application was made for re-licensing Glines Canyon Dam and licensing Elwha. Because Glines was constructed prior to 1935, and later incorporated into Olympic National Park, there has long remained an issue of jurisdiction between the Park Service and the Federal Energy Regulatory Commission(FERC). For sixteen years there was no action taken by FERC on these applications. The tribe intervened, in part, because of the safety threat, in 1976 and was able to force inspections. The history of construction of Elwha Dam has always been questioned even by Thomas Aldwell, the builder. The tribe had hoped that with FERC licensing process would lead to a careful review of all considerations and support decommissioning, dams removal and restoration of the fishery.

The current FERC licensing regulations(1989) came as a shock. FERC finally took steps in May of this year to begin the process leading to an environmental impact study and decisions on the future of the dams. However, in a workshop on licensing, held in Seattle, FERC staff related to participants that Indian tribes and the Bureau of Indian Affairs have no status as resource agencies. The implications were significant.

Tribal sovereignty was disregarded by these regulations. Tribes have responsibility, as outlined in their constitutions and by-laws, for the management of their resources. The architects of the FERC licensing regulations displayed an ignorance of law as it relates to tribes in this sensitive area.

The Bureau of Indian Affairs has trust responsibility and yet, they too were given no status as resource agencies.

The implications and additional dialogue with FERC staff clearly mapped out a case for serious discrimination. The omission of tribes and FERC disregarded treaties between the several tribes and the United States. Upon closer examination of the licensing and decision-making process, however, the implications were bolder. FERC uses a "balancing" method in preparing its environmental impact studies which are the basis of deciding on the merits of licenses. Under those elements in the environmental studies that refer to culture, if tribal impacts are not explicitly identified and given equal status in the balancing, then the outcomes of the studies and subsequent licensing decisions are impoverished. "Culture", for Indian people have many meanings. Religion, practices and customs, activities(including economic, subsistence and ceremonial), ideas, communication, relationships to physical environment, language, define the culture of a people. Artifacts are one aspect, such as buildings, but they, by no means, are the sole measurement of a culture.

The FERC system does not only write out Indian tribes as a manager of their resources(and resources are part of the culture), but their environmental impact study approach fails to identify or given equal balance to the quality factors of tribes. Upon examination, FERC hydroelectric licensing staff indicated that they had no internal expertise. Although one individual was responsible for insuring that archaeological sites were included in environmental studies, no additional expertise was identified to address the myriad of impacts that relate to Indian people and their communities.

Because we are deeply involved in a FERC proceeding, as an Intervenor rather than recognized resource entity, we have had an opportunity to evaluate the relationship of FERC to Indian tribes. Our conclusion is that FERC practices legal and institutional discrimination. The laws that empower FERC seem to disregard the Constitution of the United States. We might argue that if tribes are victimized by this discrimination then public interest is also discriminated against and that Congress should go back to the drawing board and re-design this agency so that the interests of this country are given equal balance in managing our energy resources.

I have included a summary of our position as it relates to the FERC process on licensing Elwha and Glines Canyon dams. I would further suggest that instructions be given to the oversight committee and FERC to recruit tribal expertise in evaluating projects which have impacts on Indian reservations. I would also ask that the licensing regulations be rewritten so that all recognized resource agencies be given equal status in all proceedings. Finally, I would hope that new appointees to the Commission be challenged on their commitment, experience, knowledge, in responding to interests of Indian people and tribes. Anything that FERC does can only be construed on existing law as acts of willful discrimination.

Jerry Charles Sr. : By RWK

721 Boundary Avenue
Silver Spring, MD 20910
Phones 301-587-1204 or if
no answer 301-306-1146
September 23, 1989

Honorable Bill Bradley, Chairman
Subcommittee on Power and Water
Committee on Energy and Natural Resources
US Senate
Washington, DC 20510

Subject: Unfinished Business Under the Electric Consumer Protection Act (ECPA); Federal Energy Regulatory Commission (FERC)

Dear Chairman Bradley:

I would greatly appreciate the Subcommittee's consideration of my following experiences with the Federal Energy Regulatory Commission (FERC). These experiences have shaken my confidence in the Federal Government to execute its public business in a professional and accountable manner. Using the study process under the Electric Consumer Protection Act (ECPA), I tried to correspond with FERC concerning the issues raised by these experiences plus other issues. However, FERC would not respond. Thus, please consider having the Subcommittee 1) require FERC to answer the questions in the attached document and 2) address FERC's lack of response to substantive issues in the study process. Also please have the Subcommittee consider a legislative solutions as discussed below.

Background

As a engineering consultant, I have occasionally participated in FERC hydropower licensing proceedings and studies for approximately the last three years. In licensing proceedings I have submitted technical analysis for various citizens groups.

The final Commission licensing orders are typically justified by stating only the results of analyses and calculation performed for the Commission by staff engineers and scientists. The Commission has often dismissed my analyses by stating only the results of staff analyses. However, as I and others have learned from experience, it is a Commission policy not to disclose the Staff analyses and calculations referenced in a final decision even with a FOIA request. Data, methodology and criteria used in these final decisions are kept "secret" by the Commission.

The Commission policy, of only disclosing the results of analyses and calculations in final decisions, is contrary to how other agencies make public decisions and contrary to the National Society of Professional Engineers code of ethics. The Commission policy is contrary to the most basic scientific standard of providing a description "capable of reproducing or recalling the subject matter with precision and uniqueness".

In summary, the FERC Commission issues final public decisions on hydropower under the false authority of science and engineering.

Study Under ECPA

The issue of unethical and unaccountable licensing procedures, and other substantive licensing issues, were raised in a recent study process under ECPA. The Commission would not respond to these issues. Some of the issues presented in the study process are briefly discussed in the attachment titled "Questions for the FERC Commission Concerning Hydropower Licensing Practices". Please consider forwarding these questions to the FERC for their written answers.

FERC's Legal Requirements

In order to readily correct the unaccountable and unresponsive decision processes at FERC, please consider the need for legislation which essentially says 1) FERC will disclose all materials used for it decisions consistent with fundamental scientific and engineering practices plus 2) FERC will response to all substantive issues raised in the study process.

Closing

I and others, who do business with other Federal Agencies, have been shocked, when learning the hard way, that substantive evidence in FERC licensing proceedings are kept "secret" and FERC will not respond to substantive issues in the study process.

Recent studies have shown that as a nation we are behind other nations in our understanding and teaching of scientific skills needed for today's world. To be economically competitive in today's world, Federal and State Governments are providing additional funds to improve our poor understanding of science and engineering. It is contrary to our national well being to have a Federal agency with a policy which is contrary to the fundamental practices of science and engineering.

Thank you for your time and consideration. Please do not hesitate to contact me if you or your staff have any questions concerning this letter. I can readily provide the Subcommittee with more information.

Please include this letter and its attachment in the written record for the Subcommittee's oversight hearing on September 28.

Sincerely,

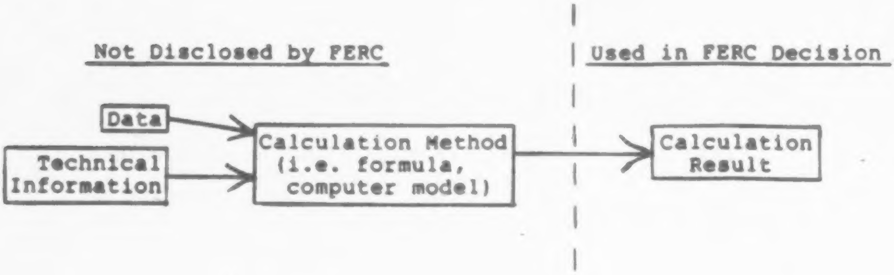
Steven L Taylor

Steven L. Taylor

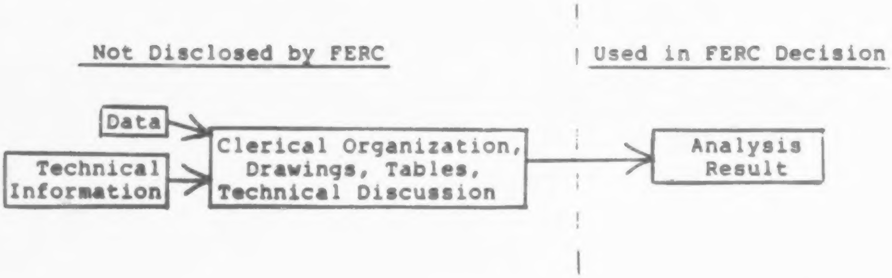
DIAGRAM

BASIC UNITS OF SCIENTIFIC/ENGINEERING CALCULATIONS AND ANALYSES

SCIENTIFIC/ENGINEERING CALCULATIONS


Not Disclosed by FERC
Used in FERC Decision
Data
Technical Information
Calculation Method (i.e. formula, computer model)
Calculation Result

SCIENTIFIC/ENGINEERING ANALYSIS


Not Disclosed by FERC
Used in FERC Decision
Data
Technical Information
Clerical Organization, Drawings, Tables, Technical Discussion
Analysis Result

Pacific Gas and Electric Company

One California Street, Room F-759
San Francisco, CA 94106
415/972-5310

R. J. Strub
Manager
Hydro Generation

September 26, 1989

The Honorable Dale Bumpers
United States Senate
229 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Bumpers:

WATER AND POWER SUBCOMMITTEE'S
ECPA OVERSIGHT HEARINGS

Enclosed is the written testimony of Mr. Greg M. Rueger, PG&E's Senior Vice President and General Manager for Electric Supply, for the Water and Power Subcommittee's Electric Consumers Protection Act Oversight Hearing.

Sincerely,

R.J. Strub/m.R.McL.

cc: National Hydropower Association
1133 21st Street, N.W., Suite 500
Washington, DC 20036

Enclosure

WRITTEN TESTIMONY OF GREG M. RUEGER
SENATE OVERSIGHT HEARINGS ON HYDRO LICENSING, SEPTEMBER 28, 1989

Introduction

My name is Greg M. Rueger and I am the Pacific Gas and Electric Company's Senior Vice President and General Manager for Electric Supply.

I am submitting this written testimony today on behalf of Pacific Gas and Electric Company (PG&E), the largest investor-owned combined gas and electric utility in the United States. I hope to impress upon you the enormous importance of clear federal procedures for the licensing of hydroelectric projects, for PG&E's customers and for the millions of Americans now benefitting from such projects. PG&E applauds the 1986 passage of the Electric Consumers Protection Act and hopes to work with the Federal Energy Regulatory Commission (FERC) and within the industry to develop clear and effective procedures for its implementation.

I will first discuss briefly the benefits of hydroelectric generation. I will then address current problems arising in the federal regulatory arena, which inhibit the continued operation of many of these projects.

Benefits of hydro

PG&E serves over 4 million electric customers in northern and central California. Hydroelectric generation provides approximately 15% of PG&E's electric capacity and somewhere in the range of 9% to 25% of its electric energy needs (depending primarily on precipitation conditions). PG&E's hydroelectric system encompasses over 71 powerhouses on 20 river systems and is the most extensive of any investor-owned utility in the nation. Our experience with hydro goes back to the late 1800s.

Our electric consumers see direct benefits from our hydroelectric resources in the form of lower electric rates. Because there are no fuel costs, hydro is among the least expensive of power sources for an electric utility and its customers. PG&E's federally licensed hydro projects provide consumers with over $400 million in fossil fuel cost savings in an average precipitation year.

Hydro is also a renewable, storable resource. Thus, a large part of the economic benefit of hydroelectric resources results from our ability to take advantage of generally plentiful winter snow and rain, storing them via dams and reservoirs for use throughout the year, and particularly during our system's summer peak electrical demand.

Pumped storage hydro resources have the added benefit of being able to capture cheaper off-peak thermal electric energy via reservoir storage, for later recapture during on-peak hours. PG&E's Helms Pumped Storage Project (1,212 megawatts) is operated in coordination with the round-the-clock operation of large thermal electric plants to provide significant additional generation when it is needed most by our customers.

Hydro resources have significant environmental benefits. Hydro does not consume dwindling non-renewable resources, either foreign or domestic, such as fossil fuels. Hydro is among the most environmentally benign and non-polluting of generation resources: it does not pollute the air; nor does it contribute to smog, acid rain or global warming. To illustrate, if the electrical output of PG&E's hydroelectric system in an average precipitation year were provided instead by a typical coal-fired generation system it would produce in excess of 100,000 tons per year of sulfur oxides (SOx); PG&E's hydro resources contribute zero SOx.

Moreover, hydro does not pollute the water or the soil. It is one of the oldest, simplest and cleanest forms of power generation. Hydro projects have allowed man to alter the flow regimes downstream of storage reservoirs, around which other beneficial uses such as agriculture, industry, residential use and year-round fishing have developed.

Hydro projects also provide recreational enjoyment for the public at project-related reservoirs and rivers. PG&E operates over 600 camp units at lakes and streams that are part of our hydro system; these units saw 175,000 person-days of use in 1988.

Furthermore, hydro projects provide water for consumption by municipal, agricultural, domestic and other uses and flood control benefits. PG&E's involvement with California's many local water districts provided the economic justification (via the value of electrical energy produced) that enabled these water districts to flourish and bring water to California's Central Valley, one of the nation's primary sources of many agricultural crops.

Hydroelectric resources also afford operational advantages. For example, they are readily dispatchable and are well suited for handling the rapid fluctuations of peak electrical demand. They also provide valuable voltage support for the rest of PG&E's electric system. For example, in 1982 both circuits of the major high-voltage electrical transmission lines linking California with the Pacific Northwest and Canada failed during severe storms. Within three-seconds of that failure, PG&E's system had protected itself against further impacts and begun the process of restoring service. In all, over 1,300 circuit breakers tripped and over 2.5 million PG&E customers representing over 6,000 MW of service were interrupted. In most cases service was restored within three-and-a-half hours. Absolutely critical to the ability of PG&E's system to recover from this incident was hydro's ability to rapidly increase generation with minimal disruptions of voltage and frequency.

PG&E's perspective on current hydro licensing procedures

The current hydro licensing procedures as implemented by the Federal Energy Regulatory Commission (FERC) generally work. However, there have been occasions where PG&E has encountered hydro licensing actions that are confusing and troublesome. Such occasions, over time, have a stifling effect on the continued development and operation of hydroelectric projects, to the detriment of all.

These troublesome situations fall generally into two areas. First, it is often difficult to understand whether FERC, or some other agency, has the final say in determining the conditions that should apply to the license for a hydro project. Second, it is hard to understand how, and by whom, an appropriate balance is to be struck between the various resource values affected by the hydro licensing process. I would like to relate a few examples.

Example 1.

Twenty-six of PG&E's 29 hydroelectric licensed projects occupy U.S. lands, representing approximately 97% of our total installed hydroelectric capacity. Increasingly, we have encountered the Forest Service trying to use its so-called "4(e) power," pursuant to Section 4(e) of the Federal Power Act, to compel FERC to include conditions in our hydro licenses. Although FERC is charged under the Federal Power Act with sole responsibility for balancing competing needs in reaching a sound licensing decision, FERC apparently believes it must nevertheless accept these 4(e) conditions word-for-word without being able to "balance" such conditions against competing resource needs. The result has been that licensees are often subjected to competing and conflicting demands.

For example, one of the Forest Service's conditions would have the effect of giving them a "veto" power over the issuance of FERC licenses, by requiring licensees to obtain a separate permit (called a Special Use Authorization, or SUA) for the right to use National Forest System lands occupied by FERC licensed facilities. Denial of the SUA would constitute a veto of FERC licensing decision.

Another of the proposed conditions clearly states that, in the event of a conflict between the FERC license and the SUA, the conditions of the SUA shall govern. These conflicts of authority put licensees in an untenable position of economic uncertainty.

Who is supposed to have the final say in licensing decisions? To make matters worse, state and federal fish and wildlife agencies have been known to circumvent FERC safeguards by getting the Forest Service to include these agencies' license conditions in the Forest Service's 4(e) conditions.

Example 2.

One of PG&E's hydro projects has a reservoir at which heavy recreational, residential, and other use patterns have developed over many years. It is a relatively small (27 megawatt) and old (pre-1920) project with high operation and maintenance costs. We have encountered considerable difficulty in developing conditions for inclusion in a new project license that provide for adequate protection of natural resources while appropriately balancing the recreational, economic and other resource needs.

For instance, shoreline property owners and recreationists have pushed for high reservoir water levels throughout the summer recreation season. Simultaneously, the fish and wildlife agencies have demanded more instream flow releases, which would reduce reservoir water levels. The Forest Service, for its part, sought costly improvements and additions to recreation facilities, to be funded entirely by PG&E (including salaries of additional Forest Service employees needed to administer and provide visitor services), but with the Forest Service administering the facilities and collecting user fees. In addition, several agencies began negotiations by pressing for a new, $4.5 million road to separate motor vehicle traffic from pedestrian/bicyclist traffic, despite the availability of simpler and less expensive alternatives.

All these demands were being placed on this project as if it generated money instead of electricity. Adoption of the agency demands would clearly threaten the economic viability of this energy resource.

We believe that the Federal Power Act clearly assigns FERC the role of the final decisionmaker in the federal licensing process. Project viability, as well as environmental and recreational interests, must be factors in the FERC balancing process. Without a certain knowledge that the economic viability of existing projects will be preserved in the licensing process, a licensee must consider the possibility of being driven from a project as agencies and interest groups impose more and more costs.

The current dispute between FERC and other agencies is a source of considerable uncertainty to licensees. It leaves open the question of whether licensees will be able to afford to continue operating existing projects. There should be a single designated forum to balance all competing interests, as opposed to advocating for just a single interest group.

Example 3.

Without a single agency, clearly understood by all as being responsible to weigh conflicting demands, impossible demands are being urged on projects. For example, the fish and wildlife agencies consider the instream flow release from one of PG&E's project reservoirs to be inadequate. They have pressed for years to force PG&E to conduct an instream flow study to determine the amount of water that is appropriate for fish downstream of the reservoir. PG&E has been pointing out for years, unsuccessfully, that the additional water that the agencies want to see released simply does not exist. It is entirely controlled by the local water agency upstream of the reservoir and is used for domestic water supply. FERC has continued to allow the agencies to demand this expensive and pointless study.

Conclusion

Pacific Gas and Electric Company appreciates the opportunity to present this testimony. We hope that the Committee will find our experiences within the current regulatory framework to be useful in any effort to improve that framework.

We believe that the current licensing framework for hydroelectric resources is generally sound. The hydro licensing process can continue to serve well the nation's electric customers, provided that the duplicative jurisdictional issues and FERC's role in ensuring appropriate balancing of resource values are clarified.

National Independent Energy Producers

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Merribel S. Ayres
Executive Director
(202) 785-2244

November 8, 1989

The Honorable Bill Bradley
Chairman, Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

Dear Senator Bradley:

The National Independent Energy Producers (NIEP) is pleased to submit the following statement for the record on oversight hearings on hydroelectric regulation held on September 28, 1989. Hydroelectric power has been a backbone of the independent power community since its beginning. We believe that hydropower is a cost-effective, clean domestic resource and that there should be rational rules to guide its development that balancing this nation's electricity needs with our environmental goals. We look forward to working with you on these and other important energy policy issues.

Sincerely,

Merribel S. Ayres
Executive Director

cc: Bill Conway, Senior Counsel

Metropolitan Square, Suite 205 655 Fifteenth Street, N.W. Washington, D.C. 20005

National Independent Energy Producers

Telephone: (202) 783-2244
Telecopy: (202)783-6506

STATEMENT OF THE NATIONAL INDEPENDENT ENERGY PRODUCERS SUBMITTED FOR THE RECORD

before the

UNITED STATES SENATE
SUBCOMMITTEE ON WATER AND POWER
COMMITTEE ON ENERGY AND NATURAL RESOURCES

Washington, D.C.

OVERSIGHT HEARINGS ON HYDROELECTRIC LICENSING
September 28, 1989

The National Independent Energy Producers is pleased to submit the following statement for the record on oversight hearings on hydroelectric regulation.

The National Independent Energy Producers (NIEP) is an association of companies that generate electricity for sale to utilities and develop cogeneration projects for a variety of users. NIEP membership is comprised of both publicly traded and privately held corporations which represent the entire spectrum of fossil fuel-fired and renewable technologies, including hydro, biomass, geothermal, wind, wood and waste-to-energy plants, as well as oil, gas and coal-fired cogeneration and wholesale generation facilities. We do not build ratebased powerplants.

NIEP is committed to shaping the long-term future of competitive electric power generation. Independent generators in competitive markets are emerging as important suppliers necessary to meet the demand for new electric generating capacity in the 1990's and beyond.

The independent energy industry has grown out of the entrepreneurial and competitive climate fostered by the Public Utility Regulatory Policies Act of 1978 (PURPA). Since this 1978 legislation made the competitive power industry a possibility, independent electric producers have built more than 25,000 megawatts of capacity -- equivalent to 25 large nuclear power plants. In addition, the industry has supplied about 20 percent of all new electric capacity since 1978 and is expected to supply nearly half of the new generating capacity in the next decade.

Hydropower and the Independent Generating Sector

Hydropower has always been a vital part of the independent generation sector. In this country, hydropower has been in existence for more than 100 years. Currently, hydropower supplies accounts for 12 percent of the nation's total electric generating capacity. Hydropower is a valuable, clean, renewable, and cost-effective domestic resource.

Under PURPA rules to encourage the development of renewable resources, hydropower quickly became one the most important energy sources for independent developers. As of April 1988, independent generators had 805 hydro projects operating, under construction or in planning, accounting for over 3700 megawatts of capacity. This represents 20 percent of total independent generation projects and 6 percent of total independent generation capacity.[1]

Indeed, many of NIEP's members got their start in the generating business as developers of hydroelectric facilities. Hydropower from independent facilities is attractive for the nation because:

1) it adds a renewable domestic resource to the fuel diversity of the nation's electricity supply;

2) since it does not involve combustion, it is a non-polluting resource; and,

3) despite large capital expenditures, independent generation shifts the capital cost-risk associated with construction away from utility ratepayers.

Typically, independent hydropower facilities have tended to be small power production facilities under PURPA's QF program (limited in size to 30 megawatts). In the east, the majority of independent hydropower projects have involved rehabilitating former dams for power production, and in the west, most projects have been new dams.

But independent hydropower developers are beginning to move beyond small PURPA qualifying facilities, into promising new technologies, such as pumped storage. Pumped storage can dramatically improve the efficiency of utility systems by using off-peak thermal spinning reserves to pump water into storage at night, and thereby allowing generators to produce electricity during peak periods by releasing water. For example, Consolidated Pumped Storage, a subsidiary of an NIEP member, is currently licensing a 1500 megawatt pumped storage facility in Central Ohio. Consolidated's pumped storage project when built, will be able to generate electricity within 15 seconds at the turn of the switch. Since this project is being developed by an independent, there is little cost risk to utility ratepayers.

However, NIEP is concerned that the Federal Energy Regulatory Commission's (FERC) current licensing and relicensing regulations, and the accompanying uncertainty, discourage investment by independents in hydropower facilities. They are literally driving independent developers out of the hydropower business altogether. The current licensing and relicensing crisis affects all utility and non-utility hydro developers. FERC reports a 70 percent drop in actions of preliminary permits and license applications since fiscal year (FY) 1985.

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[1] RCG/Hagler, Bailly, Inc., **Profile of Cogeneration and Small Power Generation Markets: Data Base,** October 1988.

With licensing costs in the millions of dollars, the problem is particularly acute for independent hydro developers since they lack the "deep pockets" of their utility brethren to wait out a long, expensive and uncertain regulatory process. Applications by independent developers have dropped dramatically, and many companies have expressed that they no longer wish to develop hydropower projects.

Current Hydroelectric Licensing and Relicensing Procedures

Under current licensing procedures, hydropower developers face some of the most complex and uncertain environmental regulations of any electricity resource. The process for obtaining air and siting permits for thermal plants combusting coal, oil, natural gas or other fuels, although sometimes contentious, is usually quite straightforward. The same is not true for hydro licensing and relicensing, particularly since passage of the Electricity Consumers Protection Act of 1986 (ECPA), which required FERC to give equal consideration to development and non-development factors. In addition, unlike their thermal competitors, hydro facilities are forced to internalize most or all environmental costs.

NIEP supports ECPA's goal of incorporating environmental considerations into hydroelectric licensing, but questions whether the nation's energy reliability goals have gotten lost in FERC's rules and procedures. ECPA requires FERC to balance environmental and energy considerations, but it appears that this balance might be weighted towards environmental considerations.

In particular, NIEP is concerned about the disjunction between federal agencies' authority and responsibility under ECPA. To achieve a balancing of interests, ECPA requires that FERC, in considering license and relicense applications, consult with agencies, such as the US Fish and Wildlife Service, the US Department of the Interior and other agencies representing environmental, resource and recreation interests. However, these agencies, although they have been granted authority under ECPA to impose conditions on licenses, have no responsibility, as FERC does, to ensure the adequacy of the nation's electric supply. ECPA's requirements should not be read to allow FERC, as a practical matter to abdicate its primary role in licensing hydroelectric facilities. Furthermore, as discussed below, NIEP questions whether FERC is living up to ECPA requirement to allow competition for relicensing to secure the most efficient use of a license.

Delays and Moving Targets

FERC's licensing and relicensing rules developed under ECPA are complex, costly, time consuming and uncertain. The National Hydropower Association estimates that licenses take 3 - 6 years to complete and can require the review of up to 19 separate agencies. Relicensing procedures since ECPA can be expected to be as lengthy and expensive. One NIEP member has an application for competing for a relicensing of a 10 megawatt project before FERC for seven years and is nowhere near the end of process.

In addition, evolving and changing rules present moving targets for license application which can render a project uneconomic. For example, one NIEP member obtained a preliminary permit for what appeared to be an economic project in Maine. In the three year period in which the developer attempted to license the project, the Federal rules regarding mitigation plans for fish habitats changed three times. In response, each time, the developer submitted a new mitigation plan, raising the cost of the project. The federal agency involved finally decided that no mitigation was possible, and opposed development of the project As a result, the project was abandoned.

Furthermore, the uncertainty associated with the current licensing and relicensing rules may create a competitive disadvantage for hydropower in the current push towards procuring generation capacity through competitive bidding. The uncertainty discourages hydro developers from entering bids because they are unable to commit to time deadlines under bidding.

In addition, margins for developers under bidding are so small that the transaction costs associated with hydro licensing may give a competitive advantage to bidders using other energy sources which are not required to internalize environmental costs. Hydropower, a renewable domestic resource with a 100 year useful life and no fuel cost risk, is effectively being shut out of the competition for new capacity.

Competition for Relicensing

FERC's rules and procedures to allow competition for relicenses to stimulate alternatives for cost-efficient, environmentally desirable uses of hydroelectric resources are producing results that may be contrary to ECPA's spirit and requirements and FERC's other statutory obligations. The lack of final rules on competition for relicenses produces more uncertainty.

In the interim, FERC appears to have adopted procedures which have the effect of favoring the incumbent licensee. FERC has apparently decided to treat undeveloped hydro assets at or near existing projects as part of those existing projects, thereby stifling competition from interested third parties.

In addition, outcomes from the competition for some pending relicenses may raise important policy question regarding what appear to be competing statutory mandates. Under the Federal Power Act, FERC has an obligation to ensure the adequacy of the nation's electric supply. In contrast, under ECPA, FERC may issue a non-power license in relicensing. For example, in a pending relicense application for a project on the Kennebec River in Maine, an intervenor has filed a notice of intent to file a competing non-power license application to tear down the dam. The intervenor argues that the best use of this license would be to eliminate the power project, although the dam has been there since the 19th century and has held a license to produce power for 50 years. FERC may be indeed caught between the requirements of the Federal Power Act and ECPA with little guidance about which best serves the nation's interests.

Policy Considerations and Conclusions

NIEP urges the Senate to consider the impact of current hydroelectric licensing and relicensing rules on the development of this valuable renewable domestic resource. The Senate should note that hydropower is the only energy source that is forced to absorb all environmental costs up front. Hydroelectric licensing should require a balancing of interests that not only reflects environmental costs, but also compares the environmental cost of thermal electric generation alternatives and considers energy policy and the nation's electricity needs equally. Rules for relicensing of projects should, as ECPA intended, encourage the best use of those resources.

○